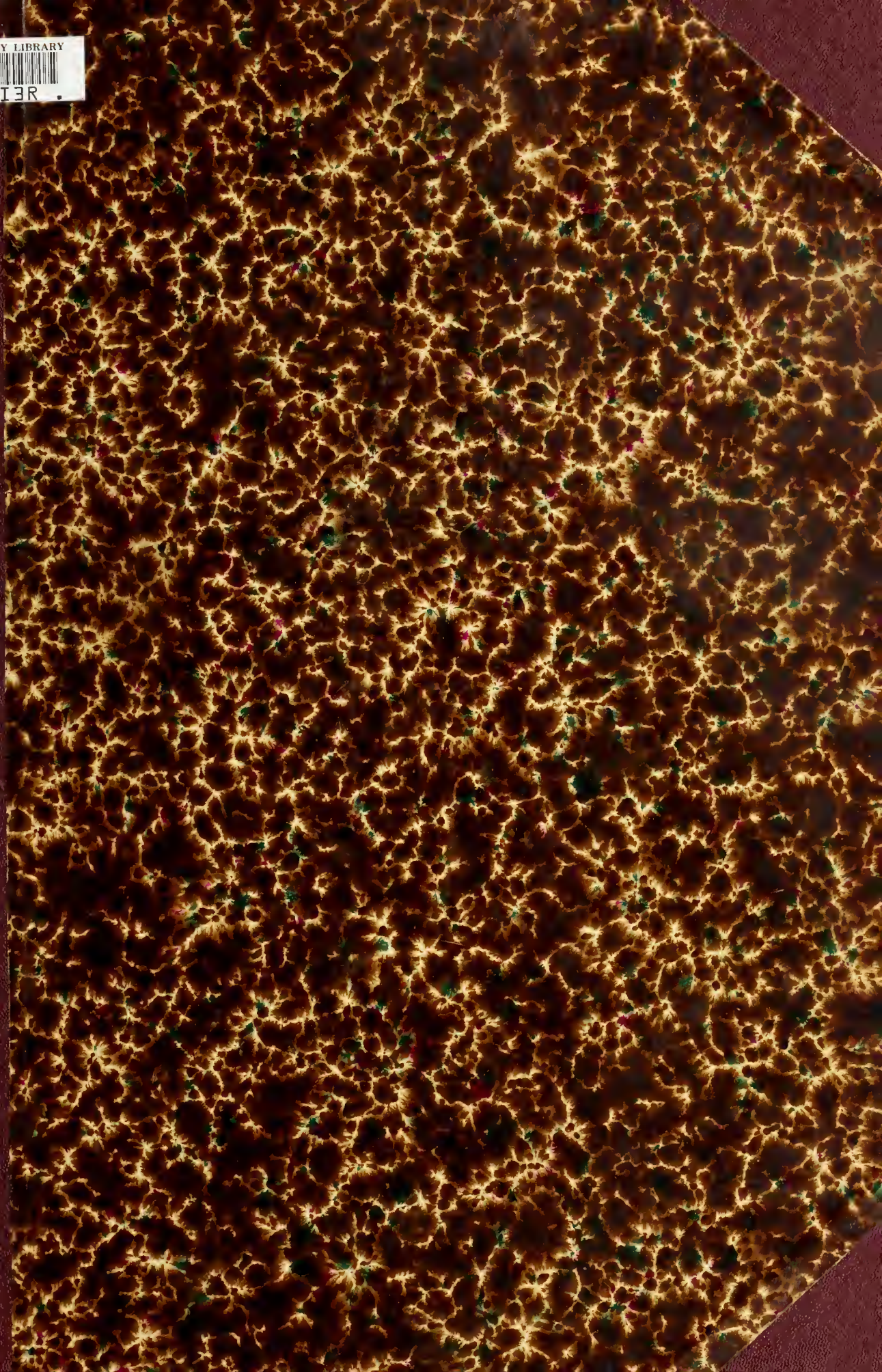
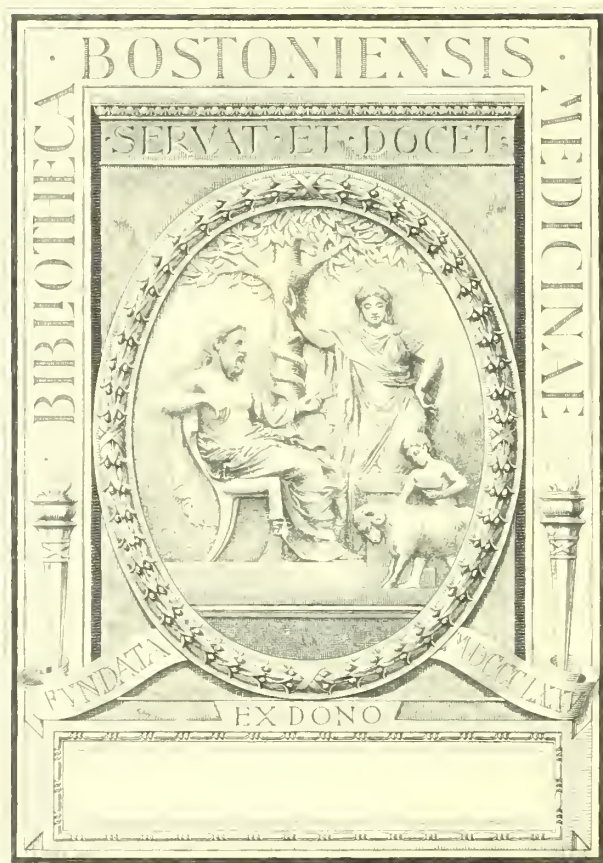


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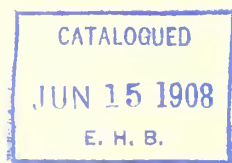
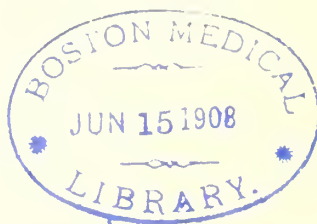
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CONTENTS AND INDEX.

Acne Vulgaris and Its Treatment—R. E. Bering, M. D.	199	Brown, Philip King, M. D.—Nauheim Treatment of Acute and Chronic Heart Failure....	85
Acute and Chronic Heart Failure, the Nauheim Treatment of—Philip King Brown, M. D....	85	Effects of Baths on Blood Pressure.....	279
Acute Pancreatitis, Report of a Case of—J. W. Jones, M. D., and J. M. Burlew, M. D.....	49	Brown, Rexwald, M. D.—Dermoids of the Scalp	169
Address of the Retiring President, J. Lambert Asay, M. D., Santa Clara County Medical Society, Dec., 1906	25	Burlew, J. M., M. D.—Report of a Case of Acute Pancreatitis	49
Aiken, Geo. H., M. D.—The Social Evil.....	9	Cabot, Richard C., M. D.—The Physician's Responsibility for the Nostrum Evil.....	12
Alcohol—A. W. Hoisholt, M. D.....	89, 111	California Legislature, Members of.....	41
Alderson, H. E., M. D.—Opsonic Index Technic Improved	180	California Public Health Association, Minutes of	324
Allen, H. W., M. D.—Laboratory Methods of Diagnosis in Typhoid Fever	57	California Pure Food Commission Notes.....	151, 213, 243, 299
Alpers, Wm. C.—Remarks by.....	299	California Surgeon, an Honor to—Dudley Tait, M. D.	69
American Academy of Medicine, Twenty-third Annual Meeting of.....	100	Cannaday, J. E., M. D.—Discussion on Perineal Tears	241
A. M. A. Meeting, Minutes of House of Delegates	181	Church, B. F., M. D.—Surgical Treatment of Motor Anomalies of the Eye.....	314
American Medical Profession, an Appeal to—S. A. Knopf, M. D.....	241	Chronic Flatulence—Alfred W. Perry, M. D....	322
American Pharmaceutical Association, Resolutions by	299	Chronic Glaucoma, Cyclodialysis for—E. C. Sewall, M. D.	119
Announcement—Journal of Inebriety.....	69	Clinical Note—C. M. Cooper, M. D.....	52
Annual Address of the President of Los Angeles County Medical Association, Dec., 1906—Fitch C. E. Mattison.....	28	College of P. & S., Dr. Ernest Pring, Resigned from	37
Antikamnia, Poisoning by—H. N. Rowell, M. D.	326	Confinements at the S. F. Maternity, Report of the First Two Hundred—Alfred Baker Spalding, M. D.	114
Army Medical Corps Examination.....	95	Cooper, C. M., M. D.—Clinical Note.....	52
Asay, J. Lambert, M. D.—Address of.....	25	Council on Pharmacy and Chemistry, Report of New and Non-Official Remedies.....	43, 121, 178, 210, 268, 325
Atropin, Case of Poisoning by Small Doses of —H. Walter Gibbons, M. D.....	117	Articles Approved by.....	300
Bacteria in Scarlatinal and Normal Throats....	39	County Societies:	
Barlow Library—Geo. H. Kress, M. D.....	94	Butte	152
Banti's Disease—W. L. Biering and E. Egdahl.	13	Los Angeles	293
Barbat, J. Henry, M. D.—Surgical Treatment of Gastroptosis	254	Marin	238, 326
Baths, Effects of on Blood Pressure—Philip King Brown, M. D.....	279	Orange	38
Bering, R. E., M. D.—Acne Vulgaris and Its Treatment	199	Placer	15, 184
Biering, W. L.—Banti's Disease	13	Riverside	122, 238, 326
Blair, J. C., M. D.—Two Anomalies of the Sigmoid Colon Resembling Diverticula.....	142	San Bernardino	67
Blue, Rupert, M. D.—Prophylaxis and Eradication of Plague	304	San Joaquin.....	16, 68, 95, 153, 184, 271, 294, 326
Blum, Sanford, M. D.—Acute Otitic Media in Children	267	San Mateo	238
Board of Medical Examiners:		Santa Barbara	67, 153, 327
December Session	18	Santa Clara.....	16, 95, 122, 184, 271, 294, 326
April Session	156	Santa Cruz	238, 294
August Session	272	Shasta.....	16, 38, 153, 238, 294
Members of, Appointed by Governor.....	123	Solano	123
Report of—Dudley Tait, M. D.....	128	Sonoma	16, 38
New Board Organized.....	155	Ventura	17
Report of Committee on Prosecution of Illegal Practitioners—F. C. E. Mattison, M. D.	237	Crees, Robert, M. D.—Underlying Causes of Rheumatism	292
Bok, Edward, Editor of Ladies' Home Journal—The Physician and the Nostrum.....	79	Deane, Louis C., M. D.—Remarks on the Present Status of Intra-nasal Surgery.....	47
		Dermatology, the X-Ray as a Therapeutic Factor in—D. Friedlander, M. D.....	197
		Diabetes, Prognosis of—Edward W. Twitchell, M. D.	264
		Diabetes, Concerning the Necessity of Watching the Heart in—C. M. Richter, M. D.....	231

10503

Diabetics, Surgery of—O. O. Witherbee, M. D.	265	Oregon Cleansed	218
Dietetics, Some Settled and Unsettled Points in —Boardman Reed, M. D.	190	Osteopathic Physicians	19
Different Periods of Life, Amplitude of Accom- modation at—Edward Jackson, M. D.	163	Our Free, Free Press	98
Diphtheria, Control of in Public Schools—Ar- chibald Ward and Margaret Henderson	199	Our Journals and the Council	20
Discussion of Papers:		Our New Rulers	97
Dr. J. Henry Barbat	255	Our Own Pages	159
Dr. Henry Walter Gibbons	119	Physicians and Nurses	245
Dr. Langley Porter	253	Please Forgive	187
Drs. Porter and Mace	84	Possible Strength	46
Dr. John W. Robertson	209	Press, The	302
Dyspepsia, Differential Diagnosis of Organic from Functional—Dudley Fulton, M. D.	172	Protect the Helpless	73
		Public Health Legislation	21
		Pure Food Commission	157, 218
		Railroads and Mail	1
		Railroad Mail Graft	248
		Rather Funny	99
		Return to Therapeutics	220
		Shall It Be a Boycott?	160
		Shall We Do It?	273
		Short Papers	245
		Signs of the Times	274
		Singular Inconsistency	247
		Slumber or Work?	275
		Small Fees	45
		Society Work	45
		Splendid Support	303
		State Society	45, 302
		State Society Secretaries	159
		Support the Association	47
		Take a Vacation	187
		The Other	303
		Thought Stimulus	127
		Truth? Nit!	248
		Viavi Reprints	188
		Way We Are "Done"	219
		We Aid Quackery	71
		We Are Gullible	3
		We Are Winning	219
		What Does It Mean?	98
		What To Do	301
		Where Is the Cure?	1
		Why Should We Help?	274
		Worked Again?	99
		Egdahl, E.—Banti's Disease	13
		Enlarged Prostate, Fallaciousness of Diagnosis of—Granville MacGowan, M. D.	315
		Epidural Abscess of Otitic Origin, A Report of Two Cases of—Hill Hastings, M. D.	307
		Epileptics, Colonies for	38
		European Clinics—E. C. Sewall, M. D.	55
		Evans, Geo. H., M. D.—Diagnosis of Some Lung Conditions Requiring Surgical Interference	6
		Specific Therapy in Tuberculosis	129
		Examination, 1906	155
		Extra-Genital Chancres—Ralph Williams, M. D.	307
		Eye, Surgical Treatment of Motor Anomalies of —B. F. Church, M. D.	314
		Femur in Adolescents, Injuries of Upper End of —James T. Watkins, M. D.	321
		Finger Prints, Identification by	15
		Fischer, Martin H., M. D.—The Physiology of Glycosuria	229
		Found	123
Earthquake Shock—John W. Robertson, M. D.	132		
Eaton, Geo. L., M. D.—Urethral Catheterization and Lavage, the Treatment of Pyelitis and Urethritis by	65		
Ectopic Pregnancy, Diagnosis and Treatment of —Geo. B. Somers, M. D.	52		
Editorial Notes:			
A Correction	157		
Aid Our Friends	217		
A. M. A. Meeting	97, 157		
A. M. A. Officers	158		
And It Is Virtuous!	2		
Another Apology	275		
Another Phase	20		
Antikamnia the Fake	127		
Apropos of Plague	273		
Barred-Out Journals	158		
Book Reviews	188		
Bubonic Plague	301		
Constructive Campaign	220		
Curious Argument	303		
Direct Illustration	246		
Doctor Davis	125		
Educate the Public	99		
Educational Campaign	46		
Encouraging Reports	303		
Enforce the Law	274		
Excellent Agreement	47		
Exposing the Fakes	126		
Fifth Volume	3		
Frauds Exposed	126		
Freight Condition	217		
General Sanitation	246		
Good Work	97		
Hall of Exhibits	158		
How to Do It	247		
How to Do It	302		
Illegal Practitioners	218		
Important Ordinance	187		
Insurance Examinations	100		
Insurance Situation	21		
"Is It Right?"	21		
Manola, This	126		
Needless Anxiety	19		
New York State Journal	2		
Numerous Attacks	125		
Opsonic Theory	71		

Frankenheimer, J. B., M. D.—Grocco's Sign....	224	Jackson, Edward, M. D.—Amplitude of Accommodation at Different Periods of Life.....	163
Frasse, Irwin N., M. D.—Some Important and Practical Points in Medicine.....	22	Jones, J. W., M. D.—Report of a Case of Acute Pancreatitis	49
Fredrick, M. W., M. D.—Fatal Case of Pemphigus	317	Jones, Philip Mills, M. D.—Thirty-seventh Annual Meeting of the Medical Society of the State of California; Minutes of the House of Delegates	105
Friedlander, D., M. D.—The X-Ray as a Therapeutic Factor in Dermatology.....	197	Report of the Secretary and Editor.....	109
Fuller, G. W., M. D., Death of.....	70	Journal of Inebriety	69
Fulton, Dudley, M. D.—Differential Diagnosis of Organic from Functional Dyspepsia.....	172	Kenyon, C. G., M. D.—Thirty-seventh Annual Meeting of the Medical Society of the State of California; Report of the Council.....	108
Functional Kidney Diagnosis—W. P. Willard, M. D.	286	Kerr, Wm. W., M. D.—Intensity of Pulmonic Sound in Mitral Incompetence.....	192
Gangosa	14	Knopf, S. A., M. D.—An Appeal to the American Medical Profession	241
Garrey, W. E., Ph. D.—Effect of Chemicals on the Heart Nerves.....	175	Kress, Geo. H., M. D.—Barlow Library.....	94
Gastropstosis, Surgical Treatment of—J. Henry Barbat	254	Medical Biographies	96
Genu Valgum Adolescentium—James T. Watkins, M. D.....	113	Pure Milk Question of California Cities....	136
Gibbons, Henry Walter, M. D.—Case of Poisoning by Small Doses of Atropin.....	117	Kurtz, Joseph, M. D.—Mechanical Treatment of Hip-Joint Disease	260
Glorious Defeat	296	Lane Lectures, Not any in 1907.....	96
Glycosuria, Physiology of—Martin H. Fischer, M. D.	229	Left Ventricle, Aneurism of with Report of Case—W. C. Voorsanger, M. D.....	166
Gonorrheal Conjunctivitis—Morton E. Hart, M. D.	170	Los Angeles County Medical Association, October 4, 1907, Resolutions Passed by.....	298
Grocco's Sign—J. B. Frankenheimer, M. D.....	224	Lung Conditions Requiring Surgical Interference, Diagnosis of Some—Geo. H. Evans, M. D.	6
Gunn, Neil D., M. D.—Myocarditis.....	318	Mace, Lewis Sayre, M. D.—Opsonic Technic... ..	83
Harrington, Mrs. W. B., Death of.....	154	MacGowan, Granville, M. D.—Fallaciousness of Diagnosis of Enlarged Prostate.....	315
Hart, Morton E., M. D.—Gonorrheal Conjunctivitis	170	Malignancies, Results of Roentgenization in Superficial—Albert Soiland, M. D.....	194
Hassler, W. C., M. D.—Tubercular Syphilide..	180	Manio-Depressive Insanity—A. W. Hoisholt, M. D.	288, 306
Hastings, Hill, M. D.—A Report of Two Cases of Epidural Abscess of Otitic Origin.....	257	Mattison, Fitch C. E., M. D.—President's Annual Address, Los Angeles County Medical Association, December, 1906.....	28
Heart Nerves, Effect of Chemicals on—Walter E. Garrey, Ph. D.....	175	Report of the Committee of the Board of Medical Examiners, on Prosecution of Illegal Practitioners	237
Henderson, Margaret—Diphtheria in Public Schools	199	Medical Intelligence, High Order of.....	32
Hewlett, A. W., M. D.—Theophyllin as a Diuretic	221	Medicine, Some Important and Practical Points in—Irwin N. Frasse, M. D.....	22
Herzstein Lectures	237	Medical Biographies	96
Hip-Joint Disease, Mechanical Treatment of—Joseph Kurtz, M. D.....	260	Medical Society of the State of California: Thirty-seventh Annual Meeting of.....	72
Hip-Joint Disease—P. C. H. Pahl, M. D.....	139	Thirty-seventh Annual Meeting, Minutes of the House of Delegates—Philip Mills Jones, M. D.	105
Hip-Joint Tuberculosis, Report of Focal-Operations in—Harry M. Sherman, M. D.....	62	Annual Address of the President, R. F. Rooney, M. D.....	102
Hoag, Ernest B., M. D.—Health of School Children	325	Report of the Council—C. G. Kenyon, M. D... ..	108
Hoisholt, A. W., M. D.—Alcohol.....	89, 111	Report of Secretary and Editor, Philip Mills Jones, M. D.	109
Manio-Depressive Insanity	288, 306	Medical Testimony	293
Huntington, Thos. W., M. D.—Ischemic Paralysis and Contracture	160	Mitral Incompetence, Intensity of Pulmonic Sound in—Wm. Watt Kerr, M. D.....	192
Hurley, Dr., Health Officer.....	270	Moffitt, H. C., M. D.—Tabes As It Presents Itself to the General Practitioner.....	309
Ideal Ligature or Suture.....	14		
Infant Feeding—Langley Porter, M. D.....	249		
Infantile Paralysis—James T. Watkins, M. D... ..	146		
Insects and Infection—W. B. Wherry, M. D... ..	281		
Insurance Fees, Report of Committee on.....	123		
Intranasal Surgery, Remarks on the Present Status of—Louis C. Deane, M. D.....	47		
Ischemic Paralysis and Contracture—Thomas W. Huntington, M. D.....	160		

Montgomery, Douglas W., M. D.—A Combination of Syphilis and Epithelioma of the Tongue	4	Human Physiology, Text-Book of—D. Appleton & Co.	184
Demonstration of a Patient, Showing the Effect of the X Ray on the Epithelial Structure of the Skin.....	65	Human Physiology, Essentials of—W. T. Keener & Co.	185
Myocarditis—Neil D. Gunn, M. D.....	318	Injured, Immediate Care of—W. B. Saunders Co.	327
Neurasthenia, the Treatment of Certain Phases of—Donald Raymond Smith, M. D.....	146	Insanity Cured by a New Treatment—Cornish Brothers	240
Neurographs	124	International Medical Annual, 1906—E. B. Treat & Co.	69
New Catalogue	96	International Medical Annual, 1907..E. B. Treat & Co.	184
Nostrum Evil, the Physician's Responsibility for —Richard C. Cabot, M. D.....	12	Internal Organs, Indications for Operations in Diseases of—E. B. Treat & Co., 1906....	214
Opsonic Index Technic Improved—H. E. Alderson, M. D.	180	Lungs, Diseases of—D. Appleton & Co.....	271
Opsonins, Words on—Langley Porter, M. D....	82	Man, Rise of—The Open Court Pub. Co.....	295
Opsonic Technic—Lewis Sayre Mace, M. D....	83	Materia Medica and Therapeutics Based Upon the Established Physiological Actions and Indications in Small Doses, a Practitioner's Handbook of—The Medical Council.....	295
Otitic Media in Children—Sanford Blum, M. D.	267	Medical Electricity, Essentials of—W. T. Keener & Co.....	123
Our Relative Position	37	Medicine, a Treatise on the Principles and Practice of—Lea Brothers & Co.	295
Pahl, P. C. H., M. D.—Hip-Joint Disease.....	139	Medicine, a Text-Book of the Practice of for Students and Practitioners—Lea Brothers & Co.	295
Pemphigus, Fatal Case of—M. W. Fredrick, M. D.	317	Mediums, Behind the Scenes With—The Open Court Publishing Co.	328
Perineal Tears, Discussion on—John Egerton Cannaday, M. D.....	241	Midwifery for Nurses, a Practical Text-Book of—W. T. Keener & Co.....	215
Perry, Alfred W., M. D.—Chronic Flatulence..	322	Modern Clinical Medicine, Diseases of the Digestive System—D. Appleton & Co.....	17
Physician and the Nostrum—Edward Bok, Editor of Ladies' Home Journal.....	79	New Hygiene—W. T. Keener & Co.....	296
Physicians' Relief Committee.....	37	Nursling—The Caxton Publishing Co., London; Imperial Publishing Co., New York...	216
Pischel, Kaspar, M. D.—Brain Symptoms of Typhoid Fever Simulating Those of Mastoiditis	285	Obstetrics, Manual of—A. F. King, M. D....	123
Placenta Previa, Management of, with Report of Seven Cases—A. B. Spalding, M. D.....	206	Obstetrics, Practice of—Lea Brothers & Co..	185
Plague in San Francisco.....	276	Operative Gynecology—D. Appleton & Co..	123
Plague—Wm. Simpson, M. D.....	276	Our Children—The Open Court Pub. Co....	214
Prophylaxis and Eradication of—Rupert Blue, M. D.	304	Pathogenic Bacteria, Text-Book Upon—W. B. Saunders Co.	153
Pope, S. T., M. D.—Throat Infections of Childhood	176	Pathology, Text-Book of—W. B. Saunders Co.	185
Porter, Langley, M. D.—Words on Opsonius... Infant Feeding	82 249	Pediatrics, Practice of	40
Posterior Merringeal Artery, Rupture of Without Fracture at the Point of Injury—H. A. L. Ryfkogel, M. D.....	180	Pediatrics, Golden Rules of—C. V. Mosby Medical Book Co., 1906	185
Pring, Ernest, M. D.—Resigned from College of Physicians and Surgeons.....	37	Physiology, Introduction to—J. B. Lippincott & Co.	69
Prostatectomy	14	Plant Breeding—The Open Court Pub. Co..	295
Publications:		Practice of Medicine for Students and Practitioners—Lea Brothers & Co.	295
Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers and Practitioners of Medicine—J. B. Lippincott Company	39	Practitioner's Medical Dictionary—P. Blackiston's Son & Co.....	69
Commoner Infections, Hints on the Management of—E. B. Treat and Company.....	295	Progressive Medicine, Vol. III—Lea Brothers & Co.	272
Ear, Operative Otology, Surgical Pathology and Treatment of Diseases of—D. Appleton and Company	153	Rectum, Diseases of—Orban Publishing Co..	295
Eye, Manual of Diseases of.....	239	Retinoscopy (or Shadow Test) in the Determination of Refraction at One Meter Distance With the Plane Mirror—P. Blackiston's Son & Co., 1906.....	214
Eye and Nervous System—J. B. Lippincott Co.	41	Rhythmotherapy—The Ouellette Press, 1906..	215
Folio Urologica	214	Starr on Nervous Diseases—Lea Brothers & Co.	240
Harvey Lectures—J. B. Lippincott Co.....	215		

Surgery, Its Principles and Practice—W. B. Saunders Co.	68	Spalding, Alfred Baker, M. D.—Report of the First Two Hundred Confinements at the San Francisco Maternity	114
Thornton's Pocket Medical Formulary—Lea Brothers & Co.	69	Management of Placenta Previa	206
Tuberculosis, Pulmonary—J. B. Lippincott Co.	185	Statistics, Etiology and Pathology—E. H. Wiley, M. D.	262
Tumors, Innocent and Malignant—W. T. Keener & Co.	328	Stomach Contents, Analysis of—Boardman Reed, M. D.	134
Whitman's Orthopedic Surgery—Lea Brothers & Co.	239	Supreme Court and the Arwine Case	188
Woman in Girlhood, Wifehood and Motherhood—The John C. Winton Co.	295	Syphilide, Tubercular—W. C. Hassler, M. D.	180
Pure Milk Question of California Cities—Geo. H. Kress, M. D.	136	Tabes As It Presents Itself to the General Practitioner—H. C. Moffitt, M. D.	309
Pyelitis and Urethritis, Treatment of by Urethral Catheterization and Lavage—Geo. L. Eaton, M. D.	65	Tait, Dudley, M. D.—Report of the Board of Medical Examiners	128
Rectum, Treatment of a Few Diseases of, by the General Practitioner—Ira C. Young, M. D.	59	An Honor to California Surgeon	69
Reed, Boardman, M. D.—Analysis of the Stomach Contents	134	Terry, Wallace I., M. D.—Operations on the Thyroid Gland	27
Some Settled and Unsettled Points in Dietetics	190	Theophyllin as a Diuretic—A. W. Hewlett, M. D.	221
Rheumatism, the Underlying Causes of—Robert Crees, M. D.	292	Thoma, Dr. G. W., Death of	70
Richter, C. M., M. D.—Concerning the Necessity of Watching the Heart in Diabetes	231	Throat Infections of Childhood—S. T. Pope, M. D.	176
Robertson, John W., M. D.—Earthquake Shock Considered as an Etiological Factor in the Production of Mental and Nervous Diseases.	132	Thyroid Gland, Operations on—Wallace I. Terry, M. D.	27
Rockefeller Institute	242	Tickell, A. H., M. D.—Toy Reflection	326
Rooney, Robert Fleming, M. D.	101	Tongue, a Combination of Syphilis and Epithelioma of—Douglas W. Montgomery, M. D., and H. M. Sherman, M. D.	4
Annual Address of the President	102	Toy Reflection—A. H. Tickell, M. D.	326
Rowell, H. N., M. D.—Poisoning by Antikamnia	326	Tuberculosis, Specific Therapy in—Geo. H. Evans, M. D.	129
Ryfkogel, A. L., M. D.—Suggestions on Methods of Attacking Typhoid Fever	204	Tumors, Innocent and Malignant	328
Rupture of the Posterior Meningeal Artery Without Fracture at the Point of Injury.	180	Twitchell, Edward W., M. D.—Prognosis of Diabetes	264
San Francisco County Medical Society, Meeting of December 11, 1906	34	Typhoid Fever, Laboratory Methods of Diagnosis in—H. W. Allen, M. D.	57
Resolutions Adopted by	270	Suggestions on Methods of Attacking—H. A. L. Ryfkogel, M. D.	204
San Francisco Health Department—James T. Watkins, M. D.	235	Brain Symptoms of, Simulating Those of Mastoiditis—Kaspar Pischel, M. D.	285
Scalp, Dermoids of—Rexwald Brown, M. D.	169	University of California Hospital	155, 300
School Children, Health of—Ernest B. Hoag, M. D.	325	Uterus Forceps—Geo. B. Somers, M. D.	287
Sewage, Purification of	38	Viavi Treatment	73
Sewall, E. C., M. D.—European Clinics	55	Voorsanger, W. C., M. D.—Aneurism of the Left Ventricle With Report of Case	166
Cyclodialysis for Chronic Glaucoma	119	Ward, Archibald—Control of Diphtheria in Public Schools	199
Sherman, H. M., M. D.—A Combination of Syphilis and Epithelioma of the Tongue	4	Washington State Association	270
Report of Focal-Operations in Hip-Joint Tuberculosis—A Discussion Finished	62	Washington State Medical Law Sustained	270
Sigmoid Colon Resembling Diverticula, Two Anomalies of—J. C. Blair, M. D.	142	Watkins, Jas. T., M. D.—Concerning Genu Valgum Adolescentium	113
Skin, Demonstration of a Patient Showing the Effect of the X-Ray on the Epithelial Structures of—Douglas W. Montgomery, M. D.	65	Infantile Paralysis	146
Smith, Donald Raymond, M. D.—The Treatment of Certain Phases of Neurasthenia	146	San Francisco Health Department	235
Social Evil: Its Cost and Control—Geo. H. Aiken, M. D.	9	Injuries of Upper End of Femur in Adolescents	321
Soiland, Albert, M. D.—Results of Roentgenization in Superficial Malignancies	194	Wemple, Dr. E. R. Sr., Death of	70
Solis-Cohen, Solomon, Excerpt from Address by Somers, Geo. B., M. D.—Diagnosis and Treatment of Ectopic Pregnancy	52	Wherry, Wm. B., M. D.—Insects and Infection.	281
Uterus Forceps	287	Wiley, E. H., M. D.—Statistics, Etiology and Pathology	262
Somnos	39	Willard, W. P., M. D.—Functional Kidney Diagnosis	286
		Williams, Ralph, M. D.—Extra-Genital Chancres	307
		Witherbee, O. O., M. D.—Surgery of Diabetics.	265
		Young, Ira C., M. D.—Treatment of a Few Diseases of the Rectum by the General Practitioner	59

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No. 1

EDITORIAL NOTES.

Approximately \$30,000,000.00 is the amount which our complacent Congressmen take from the people of the United States through the Postal Department, and give to the railroads. Quite a nice little sum, is it not? It makes a good big deficit in the Post Office Department, too, and you have to help make it up. It is on account of this deficit that a committee of Congress was appointed to look into the second-class mail (newspapers and periodicals) situation and suggest a remedy. With the distinguished intelligence of most Congressional committees, this one, instead of suggesting that the chronic looting by the railroads be stopped, recommends that the second-class rate be increased four times! Furthermore, the Post Office is required to do all of the work for the Government for nothing. If the Government paid for the carrying of its mail, as you have to, the Post Office would receive for this work some \$19,000,000, or enough to pay the entire deficit and leave a balance of over \$4,000,000 to the good. The Post Office pays to the railroads the sum of \$45,000,000 for carrying the mails. If the railroads received exactly the same rates for this matter which they do for carrying express matter, the Government would save about \$30,000,000. In other words, the railroads are getting some \$30,000,000 to which they are not legitimately entitled. How do they manage it? The scheme is very simple. In the first place, our ever kind and thoughtful Congressmen allow a rate that is nearly three times the regular express rate; the express

rate is high enough to pay both the express companies and the roads enormous earnings. For instance, the express rate from New York to Chicago is \$1.25 a hundred; for carrying the mails, Congress allows the same roads to charge \$3.56 a hundred. The second portion of the scheme of pilfering is no less simple nor efficacious. The mail matter carried by all railroads in the United States is weighed for 60 or 90 days every three or four years, and it is assumed that this is a true average of the regular amount of mail carried. The railroads are paid on that basis. Very simple; yes, indeed. But again the philanthropic Congressmen, who love the railroads more than they do you, take this particular period as the one auspicious time at which to send out large quantities of government publications, seeds, etc., to their constituents. And of course these are franked, so the harm is two-fold; an unusual amount of mail matter is carried by the railroads at this particular time, and no postage is paid upon it. Simple? Why it is childish so! In one month when the mails were being weighed, a single physician in San Francisco was favored with three sacks of government publications, weighing probably two hundred pounds.

As a result of this continuous and increasing robbery, the attention of many people has been drawn to the postal deficit; even the Postmaster-General has taken official cognizance of it and in his report, December, 1905, says:

WHERE IS THE CURE?

"The most striking feature in postal administration at this time, aside, perhaps, from the considerable extension and cost of the Rural Free Delivery service, is the increasingly large amount paid to railroad companies for transportation of mails. Correspondence on file in the department, as well as frequent references in the public press, indicate that there is a widespread popular belief that this pay is extravagant."

Dr. Taylor of the *Medical World* has employed Frank Parsons, Esq., a distinguished member of the Boston bar, to prepare a brief on this subject and it is largely from that document we have derived the facts here set forth. He says:

"The railways charge the Government about three cents a pound for hauling second-class matter, according to Professor Adams, and eight cents according to Postmaster-General Wilson, but haul the same stuff for the express companies for less than a tenth of a cent a pound. And if the railways had any serious objection to such rates they would hardly have permitted them to continue all these years, but would have provided against them in their contracts with the express companies."

It is to be regretted that we can not print the entire brief of Mr. Parsons, but we think enough

has been said to show pretty clearly just where the cause of the "postal deficit" lies; it is railroad graft, with the kind assistance of Congress. And this most excellent and worthy Congressional committee, will it recommend that railroad compensation for carrying mails be reduced to correspond with railroad charges for express and private shipments? It seems hardly likely; rather will they stand with their friends, the railroads, and recommend an increase in the charge on second-class matter. And what has that to do with medicine? It would seriously cripple a good many medical journals; it would increase the cost of publishing your own JOURNAL by several hundred dollars a year. And all this just to let the railroads steal some thirty millions of dollars from the Government. Why not drop a line to your Congressman and let him know that you know something about this particular piece of graft?

Loud spoke the gentlemen from New York, from the united and solidified profession of the Empire State, in the House of Delegates of the American Medical Association when the question of supporting the Association's Council on Pharmacy and Chemistry came before it. No firmer friends had decency, said they, than the officers and delegates and members of the great Medical Society of the State of New York. The President is no less a person than Joseph D. Bryant, President-elect of the American Medical Association, and in the list of officers and delegates one may find many distinguished names. The publication committee consists of the following gentlemen: E. Eliot Harris, F. M. Crandall, H. M. Biggs, A. T. Bristow, and Alexander Lambert; the last-named gentleman is also the Treasurer of the Society. Four of the five members are also delegates to the American Medical Association and have gone on record as highly approving the Council on Pharmacy and Chemistry of the American Medical Association, and the policy of the *Journal in dealing* with nostrums. "Words, words, words; buzz, buzz, buzz!" In the last number of the Society's *Journal*, which supposedly represents the views of the publication committee and the officers of the Society and stands for the medical profession of the great State of New York—a "united profession"—one may find the following advertisements, many of which have been exposed as frauds or the methods of the promoters condemned in the pages of the *Journal A. M. A.*: Dios Chemical Co.; Glycozone; Tyree's powder; Kutnow's powder; Scott's emulsion; Vin Mariani; Gray's glycerin tonic; Pepto-mangan; California fig syrup; Buffalo lithia water; Mercauro, etc. How the breast of the President, Dr. Bryant, President-elect of the A. M. A., must swell with pride and satisfaction when he looks at the journal of his own State Society and sees how it mocks and derides the work of the association over which he will next year preside as President. How the distinguished mem-

bers of the publication committee, four-fifths of whom are delegates to the A. M. A., must glory in the fact that they can talk loudly of purity and of supporting the A. M. A., in the House of Delegates, and then go home and sell out the pages of the journal, which it is theirs to control, to any old nostrum-man whose cash is ready! Gentlemen, for a superb feat of mental and moral jugglery, you are to be complimented! Your support of the American Medical Association, and its policy, is certainly unique; your appreciation of the work of the Council is magnificently—nil. Your co-operation in the hard work of eradicating the nastiness of the nostrum evil, must give pride to the numerous members of your great Society; they must be glad to know that the Medical Society of the State of New York approves of the nostrums mentioned, even if the Council of the A. M. A. does not. They must be proud of your rhetoric in mouthing good words as delegates, and of your acute commercialism in selling the advertising space in their journal, which they have asked you to conduct, to such a good paying, upright and righteous bunch. Dr. Bryant's position is certainly unique and entertaining. As President of the A. M. A. he will naturally take a deep interest in the tremendously valuable work of the Council on Pharmacy and Chemistry. As President of the Medical Society of the State of New York he can see the journal of that great Society selling its pages to advertise preparations exposed by the Council of the association. With one hand he may help to tear down what he has aided in building with the other. Unless we are vastly wrong in our appreciation of Dr. Bryant, he will hardly relish the anomalous position in which the journal of his Society has placed him. These, shall we say criticisms (?) of ours, are actuated by jealousy; our JOURNAL has been able to reject or throw out the advertising of only nine of the things mentioned. But there is consolation: California was placed, by a kindly providence, as far away from New York as geographical circumstances would permit!

And the *New York State Journal of Medicine* claims to an exceeding virtue. It regularly publishes the following: "The AND IT IS JOURNAL will not accept advertisements of preparations, etc., VIRTUOUS! which are advertised and sold with unsubstantiated claims to the general public; or of preparations, the formulas of which are secret." Fine! Beautiful sentiments! But note the lovely gold brick. Read that quotation over carefully. Under this rule anything advertised to the public, so long as no unsubstantiated statements were made, would be acceptable in the pages of the *New York State Journal of Medicine*, the official organ of the Medical Society of the Empire State. Self-medication may be stimulated as much as possible, and the physicians in New York will help—if they are paid for it. And as for formulas! Just ask the Council on Pharmacy and Chem-

istry what it thinks of the formulas furnished by manufacturers. If you do not care to go to the trouble of writing to the Council, just take the back numbers of the *Journal A. M. A.*, and read what it has published regarding the frauds as to formulas or methods of bamboozling the profession which have been practiced by the very firms which the physicians of New York are now helping to promote for money. Surely, one must suppose, the officers of the great Medical Society of the State of New York, and especially the members of its publication committee, must carefully refrain from reading the *Journal A. M. A.* Or can it be that they do not care to be enlightened; that they prefer the dirty dollars they get from the advertisements? It can not be that they do not approve of the work of the Council, or endorse it, for their delegates have been active in its support. One of them, Dr. Jacobi, was on a committee which drew up resolutions endorsing the Council's work most emphatically, so recently as at the Boston meeting. Can Dr. Jacobi have changed his mind in these few months? It is not to be believed. Dr. Bryant, and you gentlemen of the publication committee, the responsibility is yours and you can not shirk it. Look through the advertising pages of the *Journal* placed in your hands by a confiding Society, read what the *Journal A. M. A.* has published in exposure of the things you are taking pay for advertising, and then say what you really think of yourselves. Why—we hate to say anything so bitter—your journal is almost as bad as the *Medical Record*!

The present number begins the fifth volume of the STATE JOURNAL. It is somewhat less bulky than the January number of a year ago, for the reason that we have not recovered from the crippling catastrophe of last April; but during the year we trust that conditions will so materially improve that the additional number of reading pages may be added. However, if we are not quite so comfortably situated as we were a year ago, we have at least as much confidence in the future and at least as much potential energy. This year and succeeding years will develop many problems of interest and importance to our profession, and will find for each one of us ample work. The broad plan of organization of the medical profession is at last shown to be distinctly successful. In all parts of the United States, medical societies are increasing their growth and their strength, and are becoming, as it were, crystallized. Instead of wandering each his own way through life, we, as physicians, are awakening to the fact that we have many important duties, and that in many directions these have been forgotten or unrecognized in the past. As our profession is brought more and more into harmony, we recognize more and more clearly the great harm that has resulted to the public through our own apathy in the past. Public health institutions of all

sorts have been permitted to become playthings of political machines. Hundreds of unscrupulous individuals have been permitted to fatten upon sickness and distress through the exploitation by our profession of worthless stuff under the guise of "proprietary" preparations; really nostrums. A few months ago it was said that only in California and in some of the Southern States did physicians rebel at the cut in insurance fees; now we find that the rebellion has spread throughout the entire country. Everywhere there is talk of reciprocity; of standardization of the laws governing medical practice; of improving, at least in some degree, our present crude methods of licensing medical practitioners. These things can be done only by medical men themselves, and then only through organized bodies of physicians, working together intelligently and understandingly. Surely, with so many interesting problems, only a few of which have been barely touched upon, one can look forward to the future with feelings of pleasurable anticipation; for 1907 brings with it no less a store of work to be done than have the previous years brought. But these undertakings are not such as may be performed by any one individual; we must all do our share. Each County Society must strive to make its organization more perfect and more solid and to bring its members into closer and more harmonious touch. As individuals we can do nothing toward the safeguarding of public health interests; as strong, active, healthy societies, we can exercise a most powerful influence. Let us see to it then, that we will endeavor to live more fully and more completely up to our duties and our responsibilities in this and succeeding years.

Truly, we are indeed a gullible and a forgetful people. We will be intensely indignant today, and tomorrow forget what it was all about. We will believe a published lie that we read to-day, and next week we will read another one about the same thing, but diametrically opposed; and again will we believe that. We have come to regard the most exaggerated and impossible statements of manufacturers as privileged communications whose truth should be depended upon. We have got out of the habit of asking questions—or rather we had got out of this habit until the American Medical Association organized its Council on Pharmacy and Chemistry; now we are told that the medical profession, through this Council, is asking too many impertinent questions. All this is brought to mind by a little paragraph in the "*Texas Medical Journal*" (referred to by the editor as the "red back," not the "grey back") which refers to that delectable preparation, California Fig Syrup. By this time most of us have forgotten that the trade mark formerly held by this company under the name of Fig Syrup was declared invalid by the courts, for the reason that it was neither descriptive nor true, as the preparation did not contain syrup of figs. Subsequently, we believe,

FIFTH VOLUME.

WE ARE GULLIBLE.

some fig syrup was really added to the preparation, and the company went merrily on about its business. With the passage of the Pure Food and Drug Law, the United States government had the impertinence to demand that labels on packages containing foods or drugs should truthfully state the contents. We learn from the "*Texas Medical Journal*" the highly edifying fact that, hereafter, what has been known as "California Fig Syrup," will be known as "Syrup of Figs, an elixir of Senna." Of course the paragraph in the highly esteemed journal referred to does not make reference to the Pure Food and Drug Law, nor does it state that unless the labels on packages of Fig Syrup cease to be a fiction and really tell the truth, that preparation would be denied interstate commerce; of course not. Why should it? Why refer to anything so disagreeable? Why not merely be virtuous and say that we desire to change our label and indicate what the stuff really contains? This is just one of the numerous little rotten spots that would be funny if they did not indicate such a terrible condition of mis-statement, fraud and dishonesty.

A COMBINATION OF SYPHILIS AND EPITHELIOMA OF THE TONGUE.*

By DOUGLASS W. MONTGOMERY, M. D., San Francisco, and H. M. SHERMAN, M. D., San Francisco.

The interesting points in the following case are the combination of two important diseases such as syphilis and epithelioma in the same lesion, and the elicitation of an interesting history of unsuspected syphilis.

On November 29, 1902, a patient thirty-seven years of age, came to me complaining that she suffered from "cold sores" in the mouth, and that lately one of them had acted badly and had refused to heal. She said that she had long suffered from "cold sores," ever since her first pregnancy in fact, and that some years previously two of them had acted badly and had refused to heal, but had finally closed leaving no trace. During the first pregnancy, and coincidentally with the advent of the "cold sores," there appeared a circinate eruption on the wrists resembling "ring worm," which after a time faded out entirely.

On showing me her tongue there was seen a large oblong ulcer lying on its dorsum to the right of the median line, and situated about midway between the base and the tip. Its long diameter was about two and one-half cm, and lay in the same direction as the length of the tongue. Transversely the ulcer measured about one and one-half cm. It had a dirty white, moist floor, and a red, raised, indurated rim. It was tender, and during the past few days it had become acutely and spontaneously painful, and the pain extended up into the right ear. There was slight enlargement of the right submaxillary nodule, and the patient had a herpetic sore on the vermilion border of the lower lip, and another on the left border of the tongue. There

was no lumpiness as of gummatous deposits either in the floor of the ulcer or anywhere else in the tongue.

Besides telling from what she supposed the ulcer to have arisen, the patient gave me an account of the treatment it had received. The present sore had appeared five months before, and was then about the size of a pin head, and was persistent. It was burnt with lunar caustic by herself, but with no success as regards healing. She then consulted a physician, who also burnt it with nitrate of silver stick, but with equally bad success. She then consulted another physician who examined it microscopically, and then burnt it with some kind of caustic, but still there was no healing. In August, that is about three months before coming to me, she got X-ray treatment every day for more than two weeks, and then went camping. While on the camping trip the ulcer healed over, and left a white area. In a short time, however, the healed surface broke down again, and she took the X-ray for seven more treatments, the ulcer in the meantime growing steadily worse. She then consulted another physician, who burnt it with no better success than had attended the previous cauterizations. This list of failures is enumerated merely to show the intractable nature of the ulcer, and that it would not yield to any ordinary treatment.

I had therefore before me an ulcer, which the patient told me had arisen from a "cold sore," and the presence of two herpetic lesions, one on the edge of the tongue and one on the lip, seemed to her to support this statement. The size, depth and permanency of the lesion, however, showed the view to be incorrect. It also was not a traumatic ulcer due to the cauterizations it had suffered, because a sufficient time had always elapsed after each cauterization to permit healing, and it was not due to sharp projections on the patient's teeth, because there were no such projections; and besides, it was situated on the dorsum of the tongue, far removed from the teeth. The ulcer did not look like an X-ray burn. The diagnosis therefore lay between tuberculosis, syphilis and epithelioma. There was no history of tuberculosis in the family, and the patient was in good general health with no cough or other symptoms of tuberculosis; there were no yellow tubercle-like bodies in the floor of the ulcer or in its edge, and smears made from material taken from its surface showed no tubercle bacilli.

Indirect inquiry as regards syphilis, however, elicited the following interesting history: The patient was married July 24, 1888, and previous to this had had "sore eyes." It was impossible to determine whether the "sore eyes" had anything to do with syphilis, but probably not. She had been pregnant in all, four times, the first pregnancy occurring about two and one-half years after marriage. The fruit of this first pregnancy miscarried at about the eighth month, was stillborn, and it was thought it had been dead about three weeks. The fruit of the second pregnancy was born at term, and is still living. The subsequent history of this child will be given later. The children of the third and fourth pregnancies were born at term, and are still living

* Read at the Thirty-sixth Annual Meeting of the State Society, April, 1906.

and healthy. During the fourth pregnancy the patient suffered from an ulcer over the inner side of the right tibia, which refused to heal and was finally cut out. About five years after marriage the patient had a suppurative lesion of the terminal phalanx of the left index finger that endured for three years. The nail would occasionally be shed, and the pulp of the finger would then swell up. It finally healed without leaving a scar.

I am indebted to Dr. Jas. W. Seawell for an excellent history of the child, the fruit of the second pregnancy, who is undoubtedly frankly syphilitic. On February 19, 1903, when Dr. Seawell took his history, this child was ten years of age. At birth it was poorly nourished and at three weeks of age had what was called acute eczema, which lasted three or four weeks. At the same time there was suppurative paronychia of nearly all the finger nails, which were subsequently shed. The child suffered from sore mouth up to the age of three years. At the age of five years he had influenza followed by nephritis. At seven years of age he had trouble with the knee joints, which became enlarged. At the same time a grayish film began to appear on both corneas, and he became blind first in the right eye, then in the left. He was then sent to a hospital in Portland, where he remained for six months, receiving, probably, anti-syphilitic treatment. The eyes improved, and the trouble in the knees got well. Since then it has been necessary to wear glasses for astigmatism, and the mother said the child had a poor memory, and acted queerly at times. When Dr. Seawell examined the child he was still poorly nourished. The head was of the hydrocephalic type. The cranial sutures and the nose were all right. There were opaque scars on the corneas, but the retinas were all right. The teeth were Hutchinsonian. The child suffered from adenoids, and the tonsils were enlarged. The nails of the right index, middle and ring fingers and of the left middle finger were missing, and the other nails were cracked and corrugated. The postcervical, submaxillary, inguinal and epitrochlear lymphatic nodules were enlarged. There was dullness, increased vocal fremitus, and increased resonance over the apex of the right lung. The heart, liver and spleen were normal.

Dr. Seawell gave the child bi-chloride of mercury, one-sixtieth of a grain, three times a day, under which he improved. The child of the third pregnancy was found by Dr. Seawell to have a small ulcer over the tuberosity of the right tibia, which had lasted for six months. There was a history of having fallen on the knee, and that the abrasion would not heal. The ulcer, however, finally responded to local treatment.

The youngest child, a female, had snuffles when a baby, and nearly all her life up to about a month before taking her history had suffered from "hives"; about a year before she had had two or three red papules around the wrists and on the back of both hands, which lasted for about two or three weeks.

That my patient was syphilitic there could be no doubt, and it is probable that she got her syphilis

during her first pregnancy, for it was then that she began to get the sores in the mouth, and that she had the circinate eruptions about the wrists, that constituted, as far as we could judge, the first symptoms of her malady. Where she got the infection we never could find, for both the patient and her husband denied on direct inquiry all knowledge of how either of them might have come by it, and people in such a grave situation as they found themselves, frequently tell the truth.

That the ulcer on the tongue was syphilitic admitted also of no doubt. It was on the dorsum, a frequent situation for syphilitic ulcers, and an infrequent one for epithelioma. It had been preceded by two similar ones that had healed under very mild treatment, or possibly no treatment at all. The ulcer did not readily bleed on being touched, as epitheliomatous ulcers do, and it had not the woody hardness that epitheliomas have. The posterior rim of the ulcer was unusually firm, however, and this will be mentioned later on. The pain extending into the ear, so frequently found in epithelioma, can also occur in other ulcerations of the tongue, and the enlarged lymphatic nodule under the lower jaw was of no diagnostic value. The patient's sex was against her having epithelioma, for women are much less affected with this disease of the tongue than men. But this immunity is only due to their not smoking, and does not lie in any essential resistance of the tissues. A chronic irritation will probably cause cancer in the tongue of a woman as quickly as in that of a man. As regards age, the patient had come within the cancer age; she was thirty-seven years old. There was, however, one suspicious symptom. The ulcer had a very prominent rolled rim, and this prominent and rolled appearance was particularly marked on its posterior border, where the border was also, as before mentioned, unusually firm. In addition to this there seems to be a tendency for epithelioma to arise in gummatous ulcers of the tongue.

In such cases where there is a combination of these two diseases, a great amelioration of the symptoms is secured by the administration of specific treatment. Afterwards, however, the epithelioma asserts itself, and much valuable time is lost. As Leredde has said in discussing a similar combination of diseases, a biopsy does no harm, and may clearly show where the danger lies (*). With this in view, a piece of tissue was snipped out of the posterior, hard, raised rim of the ulcer, and on the same day anti-syphilitic treatment was begun by giving the patient an injection of a one per cent solution of bi-chloride of mercury.

The microscopical examination of the piece of tissue snipped out showed the epithelial cells to be of a typical shape and arrangement, and the inter-papillary rete suspiciously elongated downwards. The papillæ in chronic inflammatory conditions are often elongated, and much the same picture may be found, but in the present instance it was judged too much like epithelioma to incur the risk, and a rad-

(*) Soc. de Derm. et de Syph. Annales de Derm. et de Syph. S. III Tome IX., 1898, p. 1140.

ical operation was advised. The operation was performed by Dr. H. M. Sherman.

As the part of the ulcer suspected of having undergone epitheliomatous degeneration lay on the posterior edge of the ulcer, and as the ulcer was situated on the dorsal aspect of the tongue to the right of the median line, and midway between the base and the tip, the anterior aspect of the tongue should be considered free of disease, and also comparatively free from danger of infection, because epithelioma spreads in the direction of the lymph stream which in the present case would be downwards and backwards. The disease would therefore not so readily spread either laterally toward the left half of the tongue or anteriorly toward the tip. The left half of the tongue could therefore be spared, and the tip could be utilized for a flap. The procedure planned on this line of reasoning was found to be eminently successful.

After Dr. Sherman had removed the diseased tissue, the specimen was handed to me, and its examination was highly interesting. The specimen was first laid open by a sagittal incision carried down through the center of the ulcer. The diseased tissue forming the base of the ulcer could be well made out with the naked eye, and a piece of ground glass was laid against the cut surface and a tracing made. This showed a lardy condensation of diseased tissue deeply situated below both the anterior and the posterior extremities of the ulcer. The microscopical examination showed that these lardy infiltrations, and in fact the whole base of the ulcer, were studded with irregularly shaped miliary gummata, together with hyaline degeneration and giant cells. The gummata differed from those of tuberculosis in being more irregular and being angular in shape; in not being so well defined; and in not having so many epithelioid cells. That no tubercle bacilli were found, although sought for, was not a point of much importance, because they are often very difficult to demonstrate in tissues that are undoubtedly tuberculous.

The microscopical examination of slides made from sections taken from the posterior border of the ulcer, which clinically was suspected of being epithelioma, showed positively the presence of epitheliomatous infiltration, in its early stages. There was epithelial infiltration deep down in the connective tissue of the tongue with epithelial degeneration and pearl formation. Some slides would show thick sausage-like columns of epithelium penetrating deeply into the subjacent tissues. In another slide such a column would divide off into a number of branches fading off into a sort of blue haze as seen in sections stained with hematoxylin. In still other places there were loculi in the connective tissue filled with atypical epithelial cells. In all this region the basal layer of columnar epithelium was either very poorly marked or altogether absent.

Besides the coincidence of two such interesting diseases as epithelioma and syphilis in the same lesion, there was the frequent appearance of "cold sores" on the tongue which the patient said had first appeared during the first pregnancy, about the

beginning of the year 1891, and had lasted for eleven years, or till 1902, when she began taking anti-syphilitic treatment. They then promptly disappeared. In a letter received a few weeks ago from Dr. Seawell, he states they never reappeared. The initial sores in the mouth may, of course, have been mucous patches, but when I first saw them, eleven years after the first pregnancy, they certainly did not look like mucous patches, but like "cold sores." Besides this, mucous patches do not endure so long, as they are a manifestation of early constitutional syphilis, and are not a symptom of its later stages. Simple herpes of the mouth is generally attributed to some derangement of the alimentary tract, usually of the stomach, and frequently appears while the patient is suffering from an infective "cold," such as "la grippe." That in the present instance, however, the herpes was in some way dependent on syphilis is borne out by the fact that the eruption suddenly ceased on commencing anti-syphilitic treatment, never to return. The readiest explanation seems to be that the herpes in the present instance was a parasymphilide brought out by some disturbance caused by the syphilitic poison, and that therefore, although not a direct manifestation of syphilis, yet disappeared on the patient undergoing treatment for syphilis.

The result of the operation was good. The flap got by sparing the tip of the tongue aided in rapid healing, and served to diminish the size of the subsequent scar, and there never has been any return of either the gumma or the epithelioma during the three years and a quarter that have elapsed since the operation.

THE DIAGNOSIS OF SOME LUNG CONDITIONS REQUIRING SURGICAL INTERFERENCE.*

By GEORGE H. EVANS, M. D., San Francisco.

To cover, in the most practical way, the above subject within the lines of a brief paper, it will be necessary to confine its limits to a consideration of some of the conditions technically within its title, eliminating from this discussion, except in so far as they are considered in the differential diagnosis, a number of affections of the lung and pleura frequently requiring surgical intervention; and succinctly present a clinical classification and symptomatology of lung abscess which will lead to a better recognition of this condition.

While it is admitted that in every instance the co-operation of bacteria is necessary for the origin of abscess, it is not intended in this paper to establish a bacteriologic classification, for such an one would be bulky and without practical import. Various bacteria have been demonstrated in the sputum, in the pus evacuated from abscesses, and in plate cultures of the patient's blood. Of these the pneumococcus, the staphylococcus pyogenes aureus, the streptococcus, and the bacillus of Friedlander, are the most frequent.

In attempting a clinical classification of lung ab-

* To have been read at the Thirty-sixth Annual Meeting of the State Society, San Francisco, April, 1906.

cesses it will be better to adopt the nomenclature of Aufrecht and divide them roughly into (1) abscesses occurring in diseased tissue, such as those which result from suppuration in a pneumonic area, bronchiectasis, pulmonary tuberculosis, the chronic abscesses developing in the indurated lungs of old people, etc.; and (2) those which develop in previously healthy lungs.

Of the first class, those occurring as a sequence of pneumonia, may first engage our attention. Abscess is not a frequent complication of pneumonia. Osler observed it in 4 per cent of his autopsies on those dying of pneumonia. Holt found it present in 7 per cent of the autopsies upon infants and young children dying of this disease. As illustrative of some of the difficulties which confront the diagnostician in the recognition of this condition, the following history of a case occurring in my private practice will be interesting:

This patient was a man, aged 45, who contracted croupous pneumonia involving the lower and middle lobes of the right lung during acute alcoholism. The disease ran the course of a severe pneumonia for about two weeks when a typical crisis occurred, which was shortly followed by a rise in temperature, the febrile condition ranging irregularly between 99° and 101°. From the time of the rise in temperature until his admission to St. Luke's Hospital, about one month later, his condition had every indication of an uncomplicated delayed resolution, except that there were diminished breath sounds, vocal resonance and fremitus throughout the base of the affected lung. The leukocyte count was persistently high, and streptococci and staphylococci, but no elastic fibers, were present in the sputum. Diagnostic pleural punctures on several occasions yielded negative results. There was no evidence of cavity formation; nor was there at any time intermittent expectoration of large quantities of pus. Change of posture did not show any change in the limitations of dullness. He suffered considerable pain in the lower right chest. Two weeks after admission, for the first time he showed unmistakable evidence of fluid in the pleura, which was confirmed on diagnostic puncture by the expression of pus containing streptococci and staphylococci. Two ribs were resected and large quantities of pus, containing shreds of lung tissue evacuated. His recovery was uneven; the discharge gradually diminished and totally disappeared; the wound healed, and he left the hospital 30 days after operation. This was over a year ago, and at present, between his attacks of inebriety, he is actively at work and apparently in perfect health.

The difficulties in the way of a recognition of these abscesses, following pneumonia, are very great. The physical signs are apt to confound them with unresolved pneumonia; for the abscess, if present, is frequently in the center of a pneumonic area, and while in the latter bronchial breathing is the rule, one frequently finds the breath sounds feeble or absent, particularly if a thickened pleura supervenes. Coarse friction sounds are also frequently found in both conditions, and the percussion note does not aid the examiner, for the dullness is usually equally marked in both conditions. In the case just reported, while the existence of lung abscess was suspected because of the irregular temperature curve, the high leukocyte count, the dullness over the entire lobe, the diminution of breath sounds, resonance, and fremitus throughout the affected part, and the

negative results from pleural puncture, its presence was only made clear when the abscess had burst into the pleura. The temperature and the leukocyte count are usually higher, however, when abscess is present, and particularly should the latter be suspected if the leukocyte count rapidly increases.

Equally confusing is the differentiation between this condition and a sacculated empyema, for the percussion findings are identical and we have again the diminished or absent breath sounds, resonance, and fremitus; though the presence of friction sounds over the affected area would do much toward the elimination of the probability of an empyema, a sign, the presence of which would be unlikely over an accumulation of pus in the pleural cavity. While the use of the exploring needle will probably prove the existence of a sacculated empyema, I wish to direct attention to a danger in making a diagnostic puncture when pus is present in the pleura; namely, the possibility of carrying infectious material into the lung tissue and infecting it. That such accidents have occurred has been proven by different observers. The carelessness and indifference with which these thoracic punctures are frequently made is horrifying, and the possibility of infecting the lung should always be considered in determining in favor of a low point for such puncture, rather than a high one.

The character of the sputum is frequently of value. Fragments of lung tissue are often found in the pus expectorated, elastic tissue is frequently abundant, and there are sometimes cholesterol and hematoidin crystals. The sputum changes from that found in typical pneumonia and often becomes hemorrhagic, or sometimes grass-green. The odor is offensive, but seldom has the very fetid odor which accompanies gangrene or putrid disintegration. These characteristics, together with the physical signs, will do much to clear up doubt as to the presence of abscess.

The X-ray has proven of value in the diagnosis of lung abscess and, where possible, should be used. As a rule, however, it is only applicable in hospital practice, for the class of patients now under consideration. If the abscess is of fair dimensions, the skiagraph will reveal a dense, circumscribed, shadow; and if exposures are made in both the antero-posterior and lateral planes, its location can frequently be quite accurately determined. Its application should, however, be supplemental to physical examination, for I believe a danger exists in too implicit reliance on X-ray findings. In the development of this very valuable aid to diagnosis, we are very apt to forget and ignore the accurate results obtainable by thorough physical examination.

The form of bronchiectasis which comes within the province of this paper, is the sacculated form which can be definitely located. A consideration of the manner in which bronchiectasis develops will be impossible within these brief limits, more than to make the rather broad statement that we must consider stenosis of that part of the bronchial tree supplying the affected part, together with continuous excess of pressure, the most frequent predisposing

cause, leaving out of consideration the interesting mechanical questions which this statement suggests, and the various conditions giving rise to the stenosis; and pass on to the means by which the condition is most certainly recognized. The physical signs are those of lung cavity. Dyspnea is slight, and pain, if present, is a symptom of accompanying pleurisy, and is sometimes evidence that the affection is approaching the surface of the lung. The thorax is sometimes deformed, and in severe cases a kyphosis of the vertebral column is present. Specially prominent is a marked clubbing of fingers and toes, due unquestionably, as in chronic tuberculosis and chronic heart lesions, to a long continued cyanosis. This symptom was particularly marked in a patient whom I saw through the kindness of Dr. Wallace I. Terry:

This man presented himself to Dr. Terry in 1902, having had, three years before, an attack of hemoptysis following heavy lifting. Cough followed, and one year later he had another attack of hemoptysis. He had occasional night sweats. At the time of presentation, the physical signs indicated a consolidation at the apex of the right lung, and a large involvement of the base of the left, which, from his previous history, suggested a tuberculous condition. He was losing weight, his ankles were swollen, his sputum was of foul odor, great in quantity, and contained no tubercle bacilli. A diagnosis of bronchiectatic abscess was made, and operation revealed a multilocular cavity in the base of the left lung, containing about three ounces of pus. The subsequent history is very interesting, successive operations having been performed. At no time have tubercle bacilli been demonstrated. The man has at present a bronchial fistula which constantly discharges. His general condition is very good.

The most characteristic symptoms of this affection, however, are found in the sputum and the character of the cough. The sputum is purulent, sometimes fetid and gangrenous, and collects, if allowed to stand, into two layers; the lower a thick purulent material, the upper thinner, almost serous in consistency. Blood is occasionally seen; death has occurred from hemoptysis. The cough is paroxysmal, and especially frequent in the morning, because of the quantities of pus which have accumulated in bronchiectatic cavities during the night. Large quantities of sputum are thus expelled; as much as 800 cc in twenty-four hours. From a consideration of these symptoms it will be seen that this form of bronchiectasis can be confounded principally with tuberculosis, pneumothorax, lung gangrene, and suppurative processes occurring in lung tumors, and actinomycotic infections.

In the case of a tuberculous cavity, the presence of the tubercle bacillus, together with the symptom complex of an advanced tuberculosis, must be our principal guides; though it should be remembered that tuberculous cavity may occur as a complication of bronchiectasis. A large pneumothorax with a sudden onset accompanied by marked dyspnea and cyanosis, together with the group of symptoms which necessarily accompany a large accumulation of air in the pleura, is in little danger of being confounded with this condition. A difficulty often arises, however, in distinguishing between a bronchiectatic cavity and a sacculated pneumothorax; for in the

latter the gross symptoms of pneumothorax (expansion of the thorax, bulging of the intercostal spaces, displacement of heart, liver, and spleen), are not necessarily present while other symptoms of pneumothorax, such as the hyperresonant percussion note, metallic breath sounds, and rales, and the metallic note yielded on pleximeter percussion, are found in both conditions. The intensification of vocal fremitus, however, the sinking of intercostal spaces, the absence of the succussion sound and metallic tinkling, and the rapid changes in auscultatory symptoms following vigorous coughing and expectoration of sputum, are sufficiently indicative to point with unerring finger to the diagnosis of cavity.

Two other conditions must be mentioned with which a bronchiectatic cavity may be confused: putrid bronchitis and pulmonary gangrene. The former may be dismissed with a passing notice; the latter demands more attention, for the sputum in bronchiectasis may be in such large amounts and so fetidly odoriferous as to be indistinguishable from that emanating from a gangrenous area. The fact must be recognized that occasionally gangrene exists as a complication of bronchiectasis, where a bronchiectatic cavity has broken down and invaded the pulmonary structure. In gangrene, however, the clinical course, physical signs, the presence of fever, but, more important than these, the condition of the sputum, must be relied upon to establish the diagnosis. This material is usually thin, of a dirty green color, containing dead pulmonary tissue, hematin crystals, disintegrated blood corpuscles, pigment flakes, and various products of chemical putrefaction. Numerous bacteria, especially leptothrix, are frequently present. Tuberculous abscesses can not always be distinguished from those having a different etiology, by physical signs alone; although their frequency in the apex, and particularly in both apices, must be remembered. The character and consistence of the sputum, the nature of the cough, the presence or absence of tubercle bacilli in the sputum and, in afebrile cases, the tuberculin test, must be our main reliance.

Abscesses caused by suppurative processes in lung tumors are rare. When present, a differential diagnosis is often exceedingly difficult, unless the pus cavity communicates with a bronchus, when the histological elements of the tumor will appear in the sputum; or in case the abscess perforates the chest wall, when the character of the pus-containing cavity will be revealed. Likewise in actinomycotic processes, and in suppuration in hydatid cysts of the lung, thorough examination of the sputum will often reveal the true nature of the trouble.

Referring to the second division of this classification, namely abscesses developing in a previously healthy lung, a consideration of some of the various causes of such will lead us to a more ready recognition of the condition. Here we are not confronted, usually, with the confusing problems of differential diagnosis, and therefore, given the physical signs and clinical symptoms of abscess, its recognition will rest largely on a recognition of the exciting cause. This division can be subdivided into (1) metastatic

abscesses; (2) those due to rupture of abscess cavities in contiguous structures; (3) those due to introduction of foreign bodies; and (4) those which are the result of injury.

(1) Metastatic abscesses occurring as pyemic abscesses, or those formed as the result of metastatic malignant processes, seldom would come within the scope of this paper.

(2) Of the second variety, the most frequent cause is extension of an empyema or liver abscess into the lung, and its recognition necessarily rests upon the recognition of the previous condition. Rolleston calls attention to the frequency with which hepatic abscesses rupture spontaneously into the lung; it is, therefore, important that this cause be kept in mind and the sputum carefully examined. This material is usually chocolate colored, and may contain liver particles, fat globules, and amebæ; or in case the hepatic abscess is the result of suppuration in a hyatid cyst, the hooklets of the echinococcus may be found. Of the less frequent causes should be mentioned mediastinal abscesses, abscesses in the wall of the thorax, and carious vertebræ.

(3) Abscesses due to the introduction of foreign bodies, are of rather common occurrence. The suppurative process is brought about by foreign bodies in themselves aseptic, through the agency of bacteria which are normally present on the surface of the bronchial mucous membrane, and which are enabled to pass through the epithelium after it has been injured by the foreign body. If foreign bodies of large caliber are aspirated, extensive ulceration and destruction of a large part of a pulmonary lobe results; in such cases the diagnosis presents no particular difficulties.

(4) The fourth class, those due to injury in the form of open wounds through the thoracic wall, are rare, and, the exciting cause being obvious, need not be considered in detail.

THE SOCIAL EVIL, ITS COST AND CONTROL.*

By GEO. H. AIKEN, M. D., Fresno.

For the purpose of this paper I would define the term "social evil" as open and recognized prostitution in a community, including venereal diseases and their pernicious effects. I do not expect to present anything startling or new, but a few practical thoughts along neglected lines, and also to prove to you that this subject is worthy of our serious consideration.

This is an old theme, as old as the creation of mankind, and the evil probably commenced soon after the banishment of our first parents from the garden of Eden. It is one of those delicate social problems, so complex, embodying as it does the social, moral, physical and legal relations of the sexes, that it has been considered too loathsome and degrading by some, too deep and complex for others, while a few with gloved hands and veiled faces have given the subject some thought and consideration, yet without coming to any rational conclusion,

or formulating any definite plan for its abatement or control.

Measured by its direct and indirect effects, morally, socially and physically, there is no vice or disease—excepting possibly alcohol and tuberculosis—which has caused so much suffering, mutilation and mortality as that of prostitution. It destroyed Sodom and Gomorrah, it caused the downfall of Rome, it has undermined the strength and greatness of France, and is today a menace to our own national welfare and existence. If this evil is allowed to continue unregulated and unrestrained, it will undermine the strength and destroy the manhood of any people, and bring untold misery, disease and premature death to future generations.

We have given our time, talents and means to great life-saving problems in the past, only to overlook and ignore one of the most colossal and destructive agencies existing under modern civilization.

The Cost of Prostitution.—Let us carefully review this subject and count the cost, not in dollars and cents, though this would be appalling, but in the sacrifice of human life, mutilations of the body, suffering, disease and permanent invalidism, and see if we have exaggerated conditions, or occasioned any false alarm.

It is estimated that from forty to fifty thousand prostitutes die annually and that their places are immediately filled by new recruits. It is generally admitted by recent writers that gonorrhea is the most widespread and universal of all diseases. Some writers claim that 90 per cent. (the lowest estimate 75 per cent.) of the male population of our cities have had gonorrhea some time during their lives, while only 5 to 18 per cent. have contracted syphilis. Noeggerath has stated that of every thousand men married in New York eight hundred have had gonorrhea, from which the great majority of their wives have been infected. Morrow states that his own observations at the New York Hospital, "extending over a period of several years, would indicate that fully 70 per cent. of all women who come there for treatment were respectable married women who had been infected by their husbands." According to Fournir, "one-seventh of the population of Paris is syphilitic." Dr. Weiss states that "there are 150,000 syphilitics in Berlin, or 12 per cent. of the population. In New York the number is estimated at 225,000, or 15 per cent. In Copenhagen one in every 55 young men between the ages of 20 and 30 has syphilis.

Parks of England, says, "it is a question whether a large number of the young men of the upper and middle classes do not suffer in youth from some venereal disease." Neisser holds that gonorrhea, with perhaps the exception of measles, is the most widespread of all diseases. Other German authorities have computed that fully three-fourths of the adult male population, and one-sixth of the adult females have contracted gonorrhea at one time or another, and that 80 per cent. of all deaths from disease of the uterus and its appendages are of gonorrheal origin.

Janet only two years ago stated gonorrhea with

* To have been read at the Thirty-sixth Annual Meeting of the State Society, San Francisco, April, 1906.

tuberculosis—perhaps more than tuberculosis—is the “great pest of the age.” Also, he says, “if we compare from a social point of view, the importance of gonorrhea with that of syphilis, it is that of 100 to 1 not only from the numbers attacked, but also from the standpoint of the gravity of the lesions and their perpetuity. Gonorrhea modifies in a manner often permanent, the genital organs of patients, renders them infinitely dangerous for the women they approach, causes all the metritis and annexal inflammation which today gives to the surgeons three-fourths of their work, and conducts finally, both men and women to sterility.” J. T. Johnson of Washington, commenting on this subject, states that “the effect of gonorrhea on the female generative organs has been so destructive that no successful contradiction is feared, when the belief is expressed, that no disease in modern times has caused so much mortality, mutilation and suffering, both mental and physical, as gonorrhea.”

Morrow, in his work on “Social Disease and Marriage,” states that “within the past two decades no coccus has so grown in significance and pathogenic importance as the coccus of Neisser.” Gruenwald, Kammerer and Crolax, report 53.83 and 40 per cent of endometritis, mesometritis, and perimetritis, all of gonorrheal origin, as causes of sterility in the female, while Williams insists that 73 per cent of all abortions are due to endometritis, presumably of gonorrheal origin. The cause of ectopic gestation is now believed to be largely due to the effects of gonorrhea. The mutilation of women who are today suffering from the effects of gonorrheal infection of the uterine appendages is appalling, especially when we consider the increasing number of grave surgical operations made necessary by reason of these incurable diseases.

In 1901 the American Medical Association appointed a special committee for the collective investigation of statistics, on the prominence and dangers of gonorrhea. In answer to its question, “what is the proportion of cases of pelvic inflammation coming under your care, which are attributable to gonorrheal infection,” sent to many leading gynecologists in this country and Europe, Huniston replied that 90 per cent. of his cases were attributable to this cause.

Price answered that in over 1,000 abdominal sections for pelvic inflammation 95 per cent. were attributable to gonorrhea, and that in nearly all of these cases the history was reliable and clear. Pozzi and Frederick stated their experience as 75 per cent. Mann, of Buffalo, reports that in his experience just about all his “pus tube operations” are required on account of gonorrheal infection, and in these cases he thinks it becomes necessary for a complete cure to remove the uterus also. We often meet the statement that more than half the abdominal operations performed in the world today are required on account of the infections, adhesions and pus collections, due to gonorrhea.

The vast number of women operated on today in consequence of gonorrheal infection does not by any means represent the amount of invalidism and

suffering occasioned by it. It is a common experience of every physician throughout the land, of married women infected by their husbands, coming to them for relief, most of whom are ignorant of the true cause of their suffering, and crippled for life.

While we have no thoroughly reliable statistics regarding the amount of blindness caused by gonorrhea, yet our best authorities in America believe it to be not less than 15 per cent. Dr. S. M. Burnett, of Georgetown University, believes that “15,000 of the 50,000 blind persons in the United States lost their sight from this cause, involving a financial loss to the commonwealth of seven and one-half millions annually.” In Europe it is considered that 20 per cent. of all blindness in the new-born is due to gonorrheal infection. In Prussia, where they have very reliable data, it has been estimated that typhoid fever represents a yearly loss of \$1,920,000, while that from venereal diseases amounts to \$21,600,000, which is in excess of that caused by tuberculosis.

In the matter of “race suicide,” of which we hear so much today, prostitution is one of the most potent factors. There has been a gradual and continued decrease in the birthrate, not only in this country, but throughout Europe, for the past thirty or forty years. The percentage has decreased from 40 per thousand to 32 in France, and in nearly a like proportion in other countries.

One authority states that venereal diseases cause more deaths and deplete the population, by causing abortion and preventing conception, more than any other known disease or condition. Morrow says that “no disease has such a murderous influence on the offspring as syphilis, that the aptitude of a gonorrheic woman for conception is often extinguished by the first pregnancy. That the race suicide effect of gonorrhea does not end in the prevention of conception, or in one child, but has a much more powerful influence in the production of abortions than has hitherto been attributed to it.” Noerrath as far back as 1876, declared his belief that 50 per cent of female sterility was caused by gonorrhea. Neisser attributes more than 45 per cent. of sterility in women to the effects of gonorrhea. Lier Archer, found that out of 227 women 121 were sterile because of gonorrhea. Throughout Europe, it is estimated that 60 per cent. of all involuntary childless marriages are caused by gonorrhea of the female generative organs, of which 45 per cent are due to marital infection by men.

Discussing the social aspect of prostitution, Dr. Woods Hutchinson gives evidence to show (1) that 90 per cent. of all prostitutes are drawn from the lowest and most ignorant class of the population, the degenerates or criminals, the idle and the mercenary, a class which the community can best afford to lose; (2) that their average lifetime, after entering this career, is nine and five-tenths years, the shortening of life being due to the following causes, named in the order of their importance: Alcohol, venereal diseases, morphine and chloral, suicide, irregular hours and exposure; (3) that during their active life they are sterile; (4) that they seldom

reform, and if they do, are sterile to a high degree. "Thus prostitution is an agency of high value and wonderful efficiency for first rendering sterile, and then rapidly destroying the worst specimens of the sex, women whose reform and child-bearing would be a curse to the community. No need to spay the prostitute or castrate the criminal, they will do it themselves if given a little time." This is certainly a terrible indictment of womankind, but I am forced to believe that is not far from the truth.

While I believe that this is an important field for the philanthropist and the missionary, that no grander life and soul-saving service could be inaugurated than the multiplication of "rescue homes" and asylums for these fallen women; that their reformation should be encouraged and aided by every means at our command, yet from my own personal experience—working with this class—I am of the opinion that a very small percentage of those who have well started on their downward course, would avail themselves of these opportunities. The sad truth is, that very few of these women ever reform, however great the incentive, or golden the opportunity.

Its Control, How and by Whom? That prostitution is one of the most destructive and pernicious evils known to the human race, no thoughtful or sane person can deny; that it is an absolutely necessary evil, essential to the health, happiness and well-being of mankind, deserving of recognition, and legal sanction, no one dare admit; but while it is an evil, and a terrible one, it is a condition which exists in nearly every city in the land, and probably will continue to exist to the end of time, and the question of the hour is, what shall be done with it?

There is much diversity of opinion as to the best means of limiting or controlling this vice. Some believe that the Christian standard, with early moral instruction and training, is the solution of the whole problem. Others recommend rigid and enforced examination of all prostitutes and licenses, while many condemn this as a recognition of the evil, and legal sanction of the same. Even the medical profession are not fully agreed on the best methods of procedure, and until quite recently were apathetic on this subject. But in the face of the facts already presented, is it not time that something should be done to stay the terrible ravages of disease and mutilation, to say nothing of the social and moral disorganization it produces? If prevention of disease and suffering is a part of our duty and obligation to humanity, then certainly in this field lies a great opportunity and a sacred obligation. Who shall institute this reform if not the medical profession, who are familiar with its ravages and effects?

It has been proven beyond question that where the most rigid sanitary measures have been enforced and official control instituted, venereal diseases have correspondingly decreased. In northern Europe, where venereal diseases are reportable, and treatment is within the reach of all classes, these diseases, according to Weiss, have greatly diminished, but

here, as Bulkley puts it, "ignored through ignorance, neglected through negligence of our duty, so ostracised and outclassed, venereal diseases through false shame, concealment and prejudice, carry on their slaughter, unhampered, unchecked and undisturbed, devastating coming generations and ruining the present one." The *Sanitarian* suggests that a person afflicted with a venereal disease is quite as much a menace to the public health as would be a case of smallpox, or any other communicable disease, and some advocate the reporting of all such to local boards of health, without mentioning names. This might be a step in the right direction, and may be inaugurated much sooner than we anticipate.

It is quite true that in dealing with all public social evils, as prostitution, intemperance and the like, we must ultimately depend upon the molding and restraining influence of public opinion for correction and reform; but while we are waiting for this evolution, let us use every means at our command to curtail and control this evil as far as possible, until such moral standards are raised as will preclude the possibility of its continuance. Of this we may be sure, regarding these social evils, that public opinion will never keep in advance of the moral standards of a community; and neither will we succeed, or deserve to succeed as we should, so long as we continue to countenance two separate moral standards for men and women.

It is a fact that in many of the larger cities of Europe, and Havana, Cuba, prostitution is under official control, with registration of brothels and periodical examination of inmates, and detention in Government hospitals when found afflicted with any venereal disease. Not only there, but in many cities in the United States these examinations are made weekly, and I am of the opinion that this is a necessity in securing a reasonable degree of safety, as a longer period, say two weeks, gives an opportunity for infection, especially from gonorrhea. Why there should be the least objection to measures which will in the least degree lessen the effects of this evil, I am at a loss to understand. Certainly the mere examination of prostitutes and their official control, does not necessarily imply legal sanction or moral recognition of the vice. If these venereal diseases and their baneful effects can be lessened to any appreciable extent it becomes the duty of every municipality to do it. From what little experience I have had along these lines, I am confident that these diseases can be effectually controlled, excepting, of course, that which may come from clandestine prostitution.

To this end it should be placed under police control, as a sanitary measure, with a weekly inspection of all prostitutes, rejecting those with any possible infection, and not only these, but ordering others who are found suffering from severe pelvic diseases other than venereal, under treatment, as they will never care for themselves until overcome with some specific malady. To the medical profession, boards of health, and the family physician falls largely the task of enlightenment, prevention and cure of this great evil. The teaching of sexual

hygiene in all of our high schools and advanced institutions of learning, the proper education of our youth by parents, as to the great dangers of venereal diseases, together with higher moral standards, encouraged and sustained by public opinion, are the forces which will gradually banish prostitution and every form of licentiousness from our midst.

As practical experiences with recorded facts are of especial interest and value, I desire to supplement this paper with a brief history of several months' work in the so-called "tenderloin district" of Fresno. Two rooms were fitted up, having good light, one of which was used for examinations, with all necessary apparatus, table, sterilizer, etc. Examinations were made semi-monthly, on the first and fifteenth of each month, with intervening examinations of any new girl coming to the city. Something like 1,000 examinations were made during this period. A careful inspection was made of the vulva, vagina and cervix-uteri in every case, and the mouths of all French and other prostitutes suspected of practicing unnatural methods. The general appearance, complexion and skin were carefully scrutinized. I commenced this work, confidently expecting to find some cases of syphilis and more of chancroid, but to my great surprise, not a single case was encountered during the entire period. This was not due to any carelessness on my part, for I was looking most diligently for these diseases. This, to my mind, proves what many authorities have recently claimed, namely, that syphilis in relation to gonorrhea in frequency is as 1 to 100, that syphilis and chancroid are more often found among the low and filthy and clandestine prostitutes.

Thus I conclude, and my experience would prove that the above-named diseases are more frequently found among the unwashed, unclean and of easy virtue, in sections other than the so-called "tenderloin districts."

From this experience I have drawn the following conclusions:

(1) That there are some public prostitutes who are absolutely free from all specific infection, and healthful to a marked degree; therefore, the notion prevailing that all are diseased, or have had gonorrhea at some period in their lives, does not hold good.

(2) That many prostitutes are found to have pus in the urethra, cervix-uteri and vagina, in which no gonococci are to be found, and therefore non-specific.

(3) That gonococci are frequently found in the vagina and cervix-uteri, the general appearance of which would excite no suspicion that gonorrhea had ever existed; such are cases of chronic gonorrhea.

(4) That gonorrhea may obtain in the urethra, vagina and cervix-uteri of prostitutes for a long time, yet in no measure involve the body of the uterus, tubes or ovaries.

(5) That when we find a stringy, tenacious, muco-purulent discharge exuding from the cervix of a prostitute, with a tendency to bleed with slight

irritation then we may confidently expect to find the true "coccus of Neisser."

(6) That when gonorrhea once infects the cervix-uteri and invades the deeper structures and lymphatics, it will be found one of the most persistent and destructive conditions with which we have to deal, and seldom anything less than the removal of the entire uterus and adnexa will avail.

(7) That most, if not all, of those cases of acute urethritis which yield so readily to treatment—reported cured in a week or less—are non-specific, and caused by pathogenic bacteria, or other than the true coccus of Neisser.

(8) That chancroid and true syphilis are not so prevalent as generally thought and are to be found especially among the low, filthy and intemperate and clandestine prostitutes, who either have no knowledge of, or regard for, sexual hygiene.

THE PHYSICIAN'S RESPONSIBILITY FOR THE NOSTRUM EVIL.*

By RICHARD C. CABOT, M. D., Boston.

As physicians we are largely responsible for the sale of secret remedies. We help to create the demand. We feed it.

We feed it because it is shown that 44 per cent. of the prescriptions filled at one of the best of our Back Bay drug stores in Boston call for nostrums—secret remedies of whose constituents we are ignorant.

The conditions are the same or worse elsewhere. The manufacturers and those whose living depends on the sale of these nostrums, have done their best to obscure the issue by villifying the leaders of the present vigorous crusade against secret nostrums; I mean Dr. Simmons and Dr. Billings. The nostrum makers and a group of medical journals which are their organs, try to deceive us into believing that the great crusade for honest, open, intelligent prescribing and against fraud and ignorance in therapeutics, is all the work of those splendid leaders, Dr. Simmons and Dr. Billings. The truth is that almost every man of mark in the medical profession of the United States has put himself on record within the last year as being in entire accord with the policy of *The Journal of the American Medical Association*, and with the quite unanswerable arguments brought forward in this section by Dr. Billings a year ago. The leaders of medicine throughout the country are in accord on this matter and it is time for the rest of us lesser lights to stand up and be counted too. Any one who attacks Dr. Simmons and Dr. Billings attacks every one of the leading men in American medicine to-day. We, their followers, should stand ready to be hit, too, by every missile thrown at them, for the intelligence of the profession is solidly on the side of *The Journal* in this matter.

The issue is simply between light and darkness—between ignorance and knowledge. A man should know what he is prescribing and not your down his

* From the *Journal A. M. A.*

patients' throats mixtures of whose ingredients and action he is ignorant. It is not a question of where these nostrums are advertised, or whether or not they are patented, or whether the Pharmacopeia contains or excludes them. The whole question for us is: Shall we be false to the confidence which our patients place in us? Shall we, who should safeguard their interests with the keenest watchfulness, desert our post and permit, nay advise them, to use medicine whose composition is wholly guesswork to us, though our patients trust us to investigate and to understand it?

I do not see how any honorable man can see two sides to this question. Suppose an investor went to his financial adviser for counsel on investments and was recommended to buy a certain stock. Suppose the investor to ask "What is the property? Is it manufacturing stock, railroad stock, mines, municipal enterprises?" Would he not be angry and indignant if his expert adviser should answer: "I don't know what it is. A promoter gave me some and said it was good, but I know nothing about it save what he told me." A pretty sort of adviser this! False to his trust, surely; but we are far worse than that, for the financial adviser was dealing only with his client's property, while we deal with his life. They juggle with his dollars—we with his vital organs.

I believe there are not many in this audience who are not guilty—as I am guilty—of the sin of having used remedies—some of them dangerous—without knowing what they contained. I have used ammonol, before our Council on Pharmacy and Chemistry showed it up. I supposed (ignorantly, culpably) that it was a synthetic chemical compound, instead of an acetanilid mixture. I am ashamed of it. I shall try to do better, and never again to advise a powerful poison without knowing it, or an inert drug while supposing it, on hearsay evidence, to possess power. But that is just what is advised in 44 per cent. of the prescriptions filled in our Back Bay drug stores. If the public realized this it would be justly angry at our indolence and faithlessness in the high position of trust.

But, I believe that we not only feed the public demand for useless and harmful drugs, but also go far to create that very demand.

Babes are not born with a desire to take a drug for every symptom—they acquire this desire. Who teaches them? You and I do. We educate our patients and their friends to believe that every or almost every symptom and disease can be benefited by a drug. Some ignorant practitioners believe this, and we can not blame them, though we deplore the results of their indiscriminate drugging. But in my experience the educated physician who knows that only a few of his patients can be much benefited by drugs, gives out just as many prescriptions as the ignorant physician who believes all that the Pharmacopeia and the nostrum vendor tell him. The only difference is that the educated physician gives his drugs as placebos. In my opinion, the placebo habit does more harm than the habit of giving drugs to every patient with full faith in their pharmacologic action. But of this I shall say more in a

moment. Here what I want to insist on is that so long as the chief visible, tangible, gustable result of a physician's visits is a row of medicine bottles, just so long will the patient tend to try to eliminate the middle man (the doctor) and buy the drugs himself, "patent" or pharmacopeil as the case may be.

If the result of the physician's visits were a reform in the patient's diet, a lengthening of his hours of sleep, better habits in bathing, ventilation and exercise, and a sleeping balcony, no patient would be such a fool as to think he could get these results out of a bottle of "patent medicine" or a box of headache powders; but when the net result of the doctor's expensive visits is medicine bottles, the patient learns his lesson, clings to his bottle, and eliminates the expensive visits. Result: \$75,000,000 a year for secret remedies.

Placebos have another bad result. They weaken the confidence of the patient in the physician, because every placebo is a lie, and in the long run the lie is found out. We give a placebo with one meaning; the patient receives it with quite another. We mean him to suppose that the drug acts directly on his body, not through his mind by means of expectant attention. If the patient finds out what we are doing he laughs at it or is rightly angry with us. I have seen both the laughter and the anger—at our expense. Placebo giving is quackery. It also fosters the nostrum evil.

The "patent medicine" and nostrum industry will be seriously crippled when we do two things:

- (a) Stop advising secret remedies which may be poisonous or inert.
- (b) Stop fooling our patients with placebos.

The positive side of all this negative advice I have tried to explain in another paper.

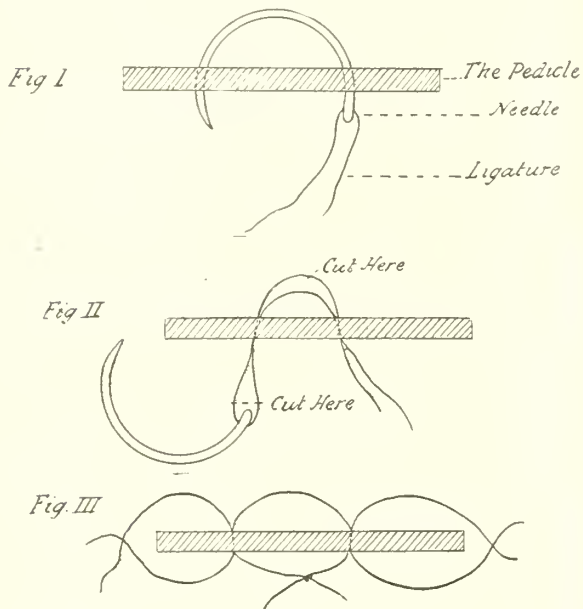
BANTI'S DISEASE.

W. L. Bierring and E. Egdahl, Iowa City, Iowa (Journal A. M. A., October 13), report a case of Banti's disease in which splenectomy was performed and discuss the blood findings. The notable facts are summarized as follows: 1. Before the operation the blood condition was that of the secondary type of anemia, low percentage of hemoglobin and leucopenia. 2. After splenectomy there was a slight fall in red cells, then a rise, a leucocytosis at its maximum twelve days after the operation and characterized by a relative increase in the mononuclear leucocytes, especially the large mononuclears. 3. The absence of myelocytes and the scarcity of nucleated reds, both before and after splenectomy. Discussing these findings in connection with those of others in this disease, the authors remark as to the significance of these blood changes, in hypertrophy of the spleen from any cause, that a decrease in hemoglobin, in erythrocytes, and in many cases also in the white corpuscles, is very likely to follow. How this leucopenia occurs is hard to explain with our present ideas of the hematopoietic function of the spleen, while the cause of the general secondary anemia with splenic hyperplasia is as yet hypothetical. The good results from splenectomy in both splenic anemia and Banti's disease seem to favor the view that the spleen is in some way responsible for the poor blood conditions. The lymphocytosis after splenectomy must be regarded as an effort at

compensation. The authors conclude that in considering the blood findings in the two diseases, Banti's disease and splenic anemia, before and after splenectomy, one is led to the opinion that, whatever the nature of the disease process or the causative influence, the blood-forming organs are not particularly concerned. The more likely points of attack are the vesicular channels, the tissues of the spleen, and in time also those of the liver.

AN IDEAL LIGATURE OR SUTURE.

To the Editor of the State Journal: So far as I am aware, the ligature here described is original; at least it is entirely original with me, and though it may have been used by others or even mentioned in medical literature, if such is the case it has not reached my attention.



In abdominal work I have found it safe, sure and expedient. It is especially useful in cases where there is a large pedicle and where rapid removal is absolutely necessary. It will be noted from the diagram that three sutures may be placed in about the time which ordinarily is required for the placing of one.

Very truly yours,

R. SELDEN ANTHONY, M. D.

GANGOSA.

O. J. Mink and N. T. McLean (Journal A. M. A., October 13), describe the disease known as gangosa, a form of ulcerated rhinopharyngitis which seems to be endemic in the Ladrone and Caroline islands, but has been reported also from some other tropical regions. It has evidently existed there for at least 150 years, is confined to the natives and does not seem to be hereditary or due to diet. The evidence is also against its being a luetic manifestation or a sequel to yaws. The authors' opinion is that it is due to some specific infection, possibly carried by flies or by direct contact, overcrowding, etc. The disease seldom being fatal few chances for autopsy occur, and other than local symptoms and lesions have not been observed. Fordyce says that the lesion is a granuloma of undetermined nature, the histologic picture somewhat resembling tuberculosis. It commences with an ulceration of the pharyngeal mucosa, becoming rapidly progressive and involving sometimes the hard palate, nose, eyes

and face. The tongue and muscles of deglutition are spared and hearing is rarely affected. In the quiescent stage, scar tissue remains, but the active stage may continue indefinitely or may be arrested at any time. A fulminating type occurs in young children, usually proving fatal in forty-eight hours and closely resembling diphtheria. If the patient survives beyond that period the disease follows the usual course. The diagnosis is simple. The sudden onset distinguishes it from lepra and lupus, and the characteristic bacteria are absent. The symptoms differ from syphilis and specific treatment is a failure. The fulminating type is diagnosed from diphtheria by the absence of the Klebs-Loeffler bacillus and the characteristic mutilation. The contagiousness of the disease is evident, and isolation, which was discontinued at the time of the American occupation, has again been made compulsory. In the fulminating type rigid quarantine should be enforced. In the early stages treatment clearly limits the progress of the disease. It is essentially local and aims to destroy the affected area. Tincture of iodine, employed freely, is apparently the best agent, though in some cases the actual cautery may be more effective. Antiseptic mouth washes should also be used and tonic treatment when necessary. As a deodorant, potassium permanganate, 1 per cent. solution, has proved most advantageous. The authors suggest the possible utility of x-ray or light treatment. In the fulminating type the treatment should be symptomatic, combined with thorough local disinfection.

PROSTATECTOMY.

A. H. Ferguson, Chicago (Journal A. M. A., October 13), classifies the case of prostatic hypertrophy as follows: 1. Cases manifesting genitourinary functional disturbances in the first congestive stage of the disease, in which proper hygienic and local treatment may effect a cure, or at least in some cases avert operation. 2. Cases with partial retention, in which the condition progresses insidiously, revealing itself in an acute attack of retention with subsequent residual urine and the necessity of catheterization, or more chronic gradual distention of the bladder with intermittent dribbling of urine. 3. Cases with complete retention with frequent involuntary urination and almost constant dribbling at night. 4. Cases of absolute incontinence and no residual urine. Prostatic enlargement does not always call for operation; the gland may be extremely large and yet cause no obstruction. Obstruction is the one important thing. Ferguson enumerates in detail the pathologic indications for prostatectomy; the conditions that interfere with the function of the vesical meatus; the obstruction of the flow of urine in the prostatic urethra; the contraction and cicatrization of the organ from chronic inflammation, the deleterious effect of prostatic obstruction on the bladder, kidneys and rectum. He reviews the literature bearing on complications, sequelae and mortality, and describes his own practice in performing the perineal operation. He puts the patient preferably in the extra lithotomy position, and, while he prefers to open the membranous urethra and proceed down to the sinus pubicaris at the point where the ejaculatory ducts open, he has frequently removed the prostate without any injury to the membranous urethra. After splitting the capsule laterally, it is best to enucleate the lateral lobes first, carefully avoiding injury to the ejaculatory ducts. The finger is pressed into the prostatic urethra and acts as a guide while the fibrous attachments between it and the prostate are cut away with cutting forceps. In case the ducts are pushed to one or both sides, and the postatic enlargement rises up into the bladder, he inserts the depressor into the bladder through the perineum to aid the finger in the

enucleation. Care should be taken not to injure the vesical sphincter in removing prostatic nodules behind the bladder and it is best, he states, to do this, piece by piece, with the biting forceps. When there is a polypoid middle lobe projecting into the bladder he removes it by way of the internal vesical orifice. While it is sometimes impossible to save the upper prostatic urethra, especially if the enlargement completely surrounds it, it is not necessary to remove the whole of it as is done in the suprapubic operation. In suitable cases it is possible to remove the whole prostate without injury to the bladder, ejaculatory ducts or prostatic urethra. In cases in which there is no necessity of saving the procreative power, the ejaculatory ducts are deliberately severed and this expedites and facilitates the operation. If it is very desirable to save the ducts, Ferguson says another expedient may be adopted which aids as a guide to save them, This is to open the inguinal region and seeking out the vas deferens, to pass a fine probe down to the sinus pularis. The best material he has found for this is fine aluminum bronze wire doubled on itself. If catheterizing the ducts is impracticable, methylene blue can be injected which will make it possible to recognize this tissue if it is injured. He makes it a practice to stain the bladder and prostatic urethra in all cases, and before operating to wash it out of the bladder and in its place leave a solution of boric acid, sufficient to distend the bladder to its utmost capacity. As regards drainage he thinks the technic is improved and convalescence hastened by draining through the penis by an ordinary retention catheter, No. 23, American. The article is very fully illustrated.

IDENTIFICATION BY FINGER PRINTS.

J. R. Kean, in the Journal A. M. A. October 13, describes the system of personal identification to be put in use in the United States army. He declares that some such system is a necessity in this country not only for convenience of military administration to purge the army of criminals, repeaters, and other undesirable characters who have gained admittance through fraudulent enlistment, but also to protect the interests of the Government and the individual in case of claims against the former based on the fact of military service. It may also assist to a certain extent in the identification of the dead. The system first adopted in the United States Army (1889) was an adaptation of the pathologic division of the Bertillon system, viz., description of moles, scars, tattoos, blemishes, etc., together with certain simple measurements and physical characteristics, such as height, color of hair, eyes and skin. The complete Bertillon system was not adopted because it required the use of bulky and expensive instruments for exact measurements, and considerable practice and skill in their manipulation. This system fulfilled very satisfactorily for our small army during a decade the special purpose for which it was introduced, namely, to check the custom of "repeating," by which is meant the fraudulent reenlistment, usually under an assumed name, of deserters and dishonorably discharged men. After the war with Spain this system was found to be inadequate. Although its use was not extended to the volunteer troops the number of transcript cards on file was over 200,000. A board was appointed October 11, 1905, to investigate the various systems of personal identification now in use, and, after an exhaustive study of the subject, it recommended the adoption of the finger-print system, supplemented by a photograph and brief personal description. The reasons given by the board for preferring the finger-print system of Galten, as improved by Henry, to the anthropometric system of Bertillon are: 1. Its greater simplicity of operation. 2. The

small cost of the apparatus required. 3. The fact that all the skilled work required is transferred to the central office, and so it is only there that experts are required. 4. Greater rapidity of operation. 5. Greater certainty of results. Kean gives in detail the methods of procedure and classification and states that an expert in searching for a duplicate can find it in five or six minutes if it exists in a record of 100,000 cards. This system, he states, will be very valuable in obviating the necessity of much correspondence and collection of evidence at present required to prove identity in cases coming before the War Department and the Pension Bureau. After the introduction of this system, any man who has served in the regular army, can at once establish his identity by placing his right forefinger on the ink pad of an ordinary rubber stamp and making a finger print below his name.

COUNTY SOCIETIES.

PLACER COUNTY.

The regular meeting of the Placer County Medical Society was held in Auburn, on the afternoon of December 8th, with the following members in attendance: Drs. Rooney, Schnabel, Jones, Peers, MacKay, White, Fay and Mules. The minutes of the previous meeting were read and approved. An assessment of one dollar per member was levied on account of the increase of dues to the State Society. The committee on tuberculosis presented the following resolutions, which were adopted:

Whereas, Many patients suffering from Pulmonary Tuberculosis are sent to Placer and neighboring counties, by physicians in other parts of the State, and,

Whereas, Many of said patients are totally, or to a great extent, ignorant of the nature of their disease, of the source of danger they are to others, of the precautions necessary to prevent the spread of the disease, and of the means necessary to protect themselves. Therefore, be it

Resolved, That the members of Placer County Medical Society do hereby protest against the wrong done patients suffering from tuberculosis and to society, by keeping such patients in ignorance.

Resolved, That the members of this Society request their brother practitioners in other parts of the State, before sending their tubercular patients from home, to supply them with the following information:

- 1st. That they are suffering from tuberculosis.
- 2nd. That from our present knowledge of the disease, we believe that tuberculosis is spread mainly through the carelessness or ignorance of tubercular patients, who do not destroy their sputum.
- 3rd. Simple effective methods of destroying sputum and sterilizing linen and table utensils.
- 4th. The danger of overexercising, the need of good, nourishing food, of plenty of fresh air twenty-four hours in the day, and other similar hygienic measures.
- 5th. The necessity of being under the care of a competent, skilled physician.

ROBERT A. PEERS,
R. F. ROONEY,
G. H. FAY,

Committee.

The committee on amendments to the constitution and by-laws offered his report, and the same was accepted. Dr. Rooney read a paper on the "Caul in Childbirth," and offered his theories in connection with it. The paper was discussed by all the members present. Officers for the ensuing year were then elected, as follows: President, Dr. R. A. Peers

of Colfax; Vice-President, Dr. A. H. Tickell of Nevada City; Treasurer, Dr. F. White of Auburn; Secretary, Dr. G. H. Fay of East Auburn.
G. H. FAY, Secretary.

SHASTA COUNTY.

Shasta County Medical Society met in regular session, October 20th, 1906, there being present Drs. S. T. White, B. E. Stevenson, T. J. Edgecomb, C. E. Reed, F. Stabel, E. E. Martin, P. H. Weber, R. F. Wallace, and Dr. A. W. Morton, visitor. Minutes of previous meetings read and adopted. Phil. H. Weber, M. D., of Redding and E. E. Martin, M. D. of Millville, were elected to membership in our Society. The Society was favored by a paper from Dr. Morton on the subject of Gastro-intestinal anastomoses, in which he very ably demonstrated the various procedures in the surgery of the alimentary canal. The paper was discussed by all physicians present.

It being the meeting for the annual election of officers, the following were elected for the year 1907: President, R. F. Wallace; Vice-President, B. E. Stevenson; Secretary and Treasurer, Phil. H. Weber; Trustees, T. J. Edgecomb, F. Stabel and R. E. Bolling; Executive Committee, S. T. White, C. E. Reed and C. J. Teass. The Society then adjourned, to meet in regular session January 19th, 1907.

R. F. WALLACE, Secretary.

SANTA CLARA COUNTY.

The Santa Clara County Medical Society held their regular annual meeting on December 19th, 1906, in the Y. M. C. A. building, San Jose, with 21 members present. After the regular order of business, the Society proceeded with the election of officers for the year 1907, with the following result: President, Dr. A. E. Osborne of Santa Clara; First Vice-President, Dr. J. J. Miller of San Jose; Second Vice-President, Dr. W. F. Snow of Palo Alto; Third Vice-President, Dr. J. Clark of Gilroy; Secretary, Dr. K. C. Park of San Jose; Treasurer, Dr. J. F. Burns of San Jose. Three Councilors, Drs. Wagner, Jordan and Asay. Delegates to State Society, Drs. Brown and Snow. Alternate Delegates, Drs. Jordan, Wright, Wagner and Miller.

K. C. PARK, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. F. R. Clarke Friday, December 28th, 1906, President C. R. Harry in the chair. The following officers for the ensuing year were elected: President, Dr. R. R. Hammond; First Vice-President, Dr. S. W. R. Langdon; Second Vice-President, Dr. J. P. Hull; Secretary and Treasurer, Dr. B. J. Powell; Trustees, Drs. A. E. Arthur, C. E. Allen and E. Harbert; Delegates to State Society, Drs. B. J. Powell and C. R. Harry; Alternates, Drs. Hudson Smythe and A. W. Hoisholt; Committee on Admission, Drs. D. F. Ray, M. Goodman, W. J. Young, F. R. Clarke and H. E. Sanderson; Committee on Ethics, Drs. J. P. Hull, R. B. Knight, J. D. Dameron, H. W. Taggart and J. D. Young; Committee on Finance, Drs. W. E. Gibbons, H. E. Southworth and I. B. Ladd.

Dr. Clarke read a paper on "Morphine Habit, Its Treatment and Cure." The doctor stated that he had in the last ten years treated successfully twenty cases, and reported four of the most interesting ones. He considers one of the secrets of success is not in removing the drug from the patient at once, but allowing small doses, gradually diminishing the same and with the use of strychnia. After de-

termining the amount of morphine taken daily by the patient the doctor arranges a hypodermic solution of morphia and a solution of strychnia, both solutions appearing the same to the patient. After an injection of the morphia solution the same amount from the strychnia bottle is placed in the morphia bottle, the patient being given the treatment every six hours. He finds that in a short time the patient does not crave the drug and eventually obtains a cure. The paper was freely discussed by the members present. After refreshments the Society adjourned.

The regular monthly meeting of the San Joaquin County Medical Society was held in the office of Dr. F. R. Clarke, November 30th, 1906; Dr. C. R. Harry in the chair.

Nominations for officers for the ensuing year were made as follows: Dr. R. R. Hammond was nominated for President; Dr. S. W. R. Langdon for First Vice-President; Dr. J. P. Hull for Second Vice-President; Dr. Barton J. Powell for Secretary and Treasurer; Drs. A. E. Arthur, C. E. Allen and E. Harbert for Trustees; Drs. Powell and Harry for delegates to the State Medical meeting. Dr. Hudson Smythe as alternate for Dr. Powell, and Dr. Hoisholt for Dr. Harry. Drs. Sanderson Ray, Goodman, W. J. Young and F. R. Clarke as Committee on Admission of new members; Drs. Hull, Knight, Dameron, Taggart and J. D. Young as Committee on Ethics; Drs. Gibbons, Southworth and Ladd as Committee on Finance.

The name of Dr. J. E. Nelson of Lodi was presented for membership in our Society. A committee consisting of Drs. Harry, Arthur, Langdon, Ray and Powell was elected to meet and devise some manner of entertainment for the San Joaquin Valley Health Officers' Association, which meets in this city December 10th, 1906. After instructing the Secretary to collect the dues for 1907 as soon as possible, the Society adjourned.

BARTON J. POWELL, Secretary.

SONOMA COUNTY.

The Society met at Dr. A. McG. Stuart's residence in Santa Rosa, and she presided, it being her last meeting as President. Dr. A. McG. Stuart has made a most excellent president. The Society has flourished. We have had good meetings and they have been well attended. She has given us much of her valuable time. Six new members were taken in during the year, and one old one reclaimed. We now have fifty members and we sincerely hope that none will fall out at the beginning of the year 1907.

Present: Drs. J. H. McLeod, G. W. Mallory, J. W. Jesse, W. J. Kerr, J. J. Keating, J. R. Swisher, J. W. Seawell, I. A. Wheeler, E. M. Yates, L. Lain, R. M. Bonar, W. L. Fay, C. H. Thompson, P. A. Meneray, S. S. Bogle, J. E. Hoffman, F. O. Pryor.

We adopted resolutions favoring the establishment of Sanatoriums for the cure of tuberculosis in California by State legislation. We would all like to see a number of these sanatoriums.

The following officers were elected for the year 1907: President, J. M. Swisher, Healdsburg; Vice-President, J. H. McLeod, Santa Rosa; Secretary, R. M. Bonar, Santa Rosa; Treasurer, Lizzie Lain, Santa Rosa; Delegates, J. W. Seawell, term expires 1907; F. O. Pryor, term expires 1908. Alternates, Edw. Gray, term expires 1907; Smith McMullin, term expires 1908. Censors, S. S. Bogle, president, term expires 1907; Kurt Urban, term expires 1908, W. J. Kerr, term expires, 1909. New committee on public legislation not yet named.

Dr. Swisher's paper on obstetrics and his own experience in particular was interesting as a story or for instruction. The doctor detailed his first two cases in obstetrics. "I believe I am right in assert-

ing that the longer we practice and the more familiar we become with the revelations of the lying-in chamber, the more we are convinced of the fact that dangerous hemorrhages, hour glass contractions, spasms of the cervix, malpresentations, morbid adhesions of placenta and the imperative necessity for the application of forceps, are extremely rare; oftentimes I have disinfected my forceps and then laid them by for a time and then would be born a healthy babe with no lacerations."

Dr. C. H. Thompson's paper "Asepticism" was in keeping with cleanliness. He did not use bichloride as much as many do. He always takes his own soap and lubricant. He never douches unless there is a decided indication for it. Always gives his own interuterine douche; does not trust it to nurse. He thought there should be but very few cases of infection at this age of disinfectants.

The President, Dr. A. McG. Stuart then invited us to a turkey dinner, so we whiled away the late hours of the night at the banquet table; and so closed one of the most enjoyable meetings ever held by our Society.

G. W. MALLORY, Secretary.

VENTURA COUNTY.

The regular meeting of the Ventura County Medical Society was held on Monday evening, December 17th, at the residence of Dr. T. E. Cunnane, Ventura. Election of officers for 1907 resulted as follows: President, A. A. Maulhardt, M. D., Oxnard; Vice-President, C. Teubner, M. D., Saticoy; Secretary and Treasurer, G. N. Stockwell, M. D., Ventura.

The subject of discussion for the evening was "The Radical Cure of Inguinal Hernia," Dr. W. R. Livingston of Oxnard reading the paper. Dr. Livingston described the most modern methods, relating a number of successful operations occurring in his own practice. President Cunnane opened the general discussion which followed, a number of interesting cases being mentioned by the members present. The Society gave a vote of thanks to Dr. Livingston for his interesting discourse. The charming hostess, Mrs. Cunnane, then invited all to partake of an elegant repast, a treat long to be remembered. The Society voted thanks to Dr. and Mrs. Cunnane.

CHARLES TEUBNER, Secretary.

PUBLICATIONS.

Modern Clinical Medicine—Diseases of The Digestive System. Edited by Frank Billings, M. D., D. Appleton & Company. \$6.00 net.

This book is one of the volumes of the authorized translation of "Die Deutsche Klinik." It is well translated and the paper and type are good. The book consists of a compilation of articles, each article being written by a recognized authority on the particular subject of which he treats.

Rosenheim writes on "Stenosis of the Esophagus." He speaks of the merits of the Esophagoscope, but omits reference to the X-Ray, which is a valuable diagnostic agent in many esophageal conditions. The article, though short, is an excellent one, and Billings, the editor, has added a picture of the Sippy Dilator. Fleiner's communication, "The History and Clinical Indications of Gastric Lavage," is learned, wise and clear. Riegel writes interestingly and instructively on "Diagnosis and Treatment of Gastric Dilatation," and gives much practical information. He discusses acute dilatation; but mentions not Fagge, who reported the first case.

Boas contributes the article on "Gastric and Intestinal Carcinomata" and attributes much importance to the so-called gastric rigidity (local tonic contractions) as an early indication of an obstruction at the pylorus. Weber's modification of the guaiac test is recommended and described, which shows how soon even a newly published book fails to be up to date, as the Benzidin variation of this test is now the favorite one. Hirschfeld is the author of the chapter on "Displacement of the Abdominal Viscera and of the Heart." He fails to allude to the now famous frozen section of an enterototic subject made and published by Keith in which the kinking of the bile ducts caused by the rotated liver is so beautifully shown; and indeed throughout the book little reference is made to English or American work. Osler handles "Diseases of the Pancreas" briefly and somewhat generally.

Minkowski, in writing of jaundice, still adheres to his views as regards its possible origin from a disturbance of the hepatic cells resulting in the excretion of biliary constituents in an abnormal direction (icterus per parapedesin).

Stadelman contributes the chapter on "Chronic Inflammation of the Liver." He describes the ascites to a mechanical cause, and the views of Hale White are not alluded to. An hypertrophic stage is considered to precede atrophy in common cirrhosis. In the treatment of Hanot's cirrhosis the reports of the French surgeons on the advantages of drainage of the gall-bladder are not referred to, though in biliary hepatic cirrhosis, which is rightly sharply differentiated from Hanot's cirrhosis, the necessity for such a procedure is insisted upon. Syphilis of the liver is treated briefly, and here the editor adds a note on the temperature which may occur in the course of this condition.

Kraus, in writing of "Neoplasms of the Liver and Biliary Passages," draws attention to the advantage of a cholecystectomy in gallstone disease from the prophylactic standpoint of carcinoma; he refers to the rarity of fatal uncomplicated jaundice due to gallstones, and discusses primary carcinoma of the liver very satisfactorily under the headings of Massive Nodular and Cirrhotic Carcinoma.

To Neusser's article on "Gallstones," Billings adds an opportune note to the effect that gallstone disease is a surgical disease. Neusser, however, rightly refers to the difficulties of the surgeon who, having performed previously a cholecystectomy, is compelled to operate for a recrudescence and notes that the intermittent fever in liver affections may be due to Carcinoma, Syphilis, or Tuberculosis as well as to infection processes.

Vierordt contributes a particularly clear clinical picture of the varieties of "Acute Peritonitis." It is to be noted that the necessity for early operation is being recognized in Germany. The occurrence of a leukocytosis and its increase in the purulent forms of appendicitis are not sufficiently emphasized. He makes one point, viz., that the course to be pursued depends upon the skill of the surgeon who is at hand—a point well worthy of consideration in the treatment of all abdominal diseases. The section on "Examination of the Gastric Contents," is short but contains all the information that the general practitioner needs; and Strasburger has written a satisfactory section on the "Examination of the Feces," Schmidt's and his own work forming the basis of his article. Of the remaining chapters, Fleiner's article on "Diarrhea, Intestinal Catarrh, etc.," deserves close study and is made very instructive. In conclusion we have much pleasure in highly commending the book, as it is an eminently sane and wholesome exposition of the subjects of which it treats, and is moreover of a truly clinical character.

C. M. C.

School of Medicine.	Percentage.	Surgey.....	Practice.....	Physiology....	Pathology....	Obstetrics....	Md. Med....	Chemistry....	Bacteriology..	Anatomy.....	Date of Graduation..
PASSED.											
Cooper Med. Coll., S. F., Cal.....	5, 9, 06	89	75	81	84	84	85	91	82	92	84 7-9
Cooper Med. Coll., S. F., Cal.....	5, —, 05	87	77	77	96	78	63	80	84	91	81 4-9
Cooper Med. Coll., S. F., Cal.....	5, 9, 06	85	68	75	83	69	60	79	76	86	75 5-9
Oakland Coll. of M. and S., Cal.....	6, 1, 06	83	85	60	73	90	68	71	75	94	77 2-3
Univ. of Cal., S. F., Cal.....	5, 16, 06	91	81	82	87	96	94	95	92	94	90 2-9
Univ. of Cal., S. F., Cal.....	5, 16, 06	86	77	94	87	96	85	100	79	95	88 7-9
Univ. of Cal., S. F., Cal.....	5, 16, 06	90	85	88	82	94	83	95	91	91	88 7-9
Univ. of Cal., S. F., Cal.....	5, 16, 06	82	75	82	80	89	75	93	75	91	82 1-3
Univ. of Cal., S. F., Cal.....	5, 16, 06	84	61	91	81	84	84	93	86	86	82 2-9
Univ. of Cal., S. F., Cal.....	12, 7, 06	88	78	88	85	88	70	78	70	86	81 2-9
Univ. of Cal., S. F., Cal.....	5, 17, 05	89	74	60	75	80	70	93	80	86	78 5-9
Univ. of So. Cal., L. A., Cal.....	6, 14, 06	81	70	67	85	84	66	80	86	75	75 2-3
Chicago Homo. Med. Coll., Ill.....	2, 19, 89	75	79	87	88	88	75	82	84	84	81 1-3
Coll. of P. and S., N. Y.....	6, 10, 03	88	80	86	84	85	80	85	95	90	85 8-9
Harvard Univ. Med. Coll., Mass.....	6, 26, 01	89	81	92	88	88	85	93	75	95	87 1-3
Harvard Univ. Med. Coll., Mass.....	6, 26, 01	90	73	79	83	82	75	90	81	94	81 8-9
Harvard Univ. Med. Coll., Mass.....	6, —, 87	80	77	75	86	76	79	90	79	92	81 5-9
Hering Med. Coll., Ill.....	4, 11, 03	78	65	67	90	72	60	78	90	85	76 1-9
Hosp. Coll. of Med., Ky.....	6, 19, 94	81	83	62	84	89	65	66	60	87	75 2-9
Jefferson Med. Coll., Pa.....	3, —, 79	95	89	76	90	89	80	85	85	94	87
Jefferson Med. Coll., Pa.....	—, —, 92	75	75	76	77	69	73	68	85	80	75 1-3
Johns Hopkins Univ., Md.....	6, —, 06	88	72	76	76	82	76	90	80	80	80
Kentucky Sch. of Med., Ky.....	7, —, 06	79	68	76	82	84	61	85	82	87	78 2-9
McGill Univ., Montreal, Can.....	6, —, 03	91	74	77	80	76	81	95	95	83	83 5-9
Medical Coll. of Ohio.....	10, 24, 96	93	89	79	80	90	93	96	83	90	88
Medical Coll. of Ohio.....	4, 9, 97	90	74	85	88	78	71	62	97	87	81 1-3
N. W. Univ. Med. School, Ill.....	6, 15, 05	89	80	77	91	97	80	96	80	90	86 2-3
N. W. Univ. Med. School, Ill.....	6, 16, 04	88	82	76	82	94	84	93	73	91	83 2-3
N. W. Univ. Med. School, Ill.....	6, 18, 03	80	86	68	73	94	70	64	75	87	77 4-9
N. W. Univ. Woman's Med. School, Ill.....	6, —, 99	85	79	75	81	93	67	75	62	81	77 5-9
Royal Coll. Surg., Eng., and Royal Coll. Phys., Ireland.....	1, —, 00	90	67	87	88	96	81	88	77	87	84 5-9
Royal Univ. of Turin, Italy.....	7, 7, 05	87	68	70	81	71	90	61	72	75	75
Univ. of Kans.....	3, 15, 92	86	76	73	87	96	68	93	75	95	83 2-9
Univ. of Penn.....	6, —, 97	90	84	73	92	97	87	80	83	91	86 1-9
Univ. of Va.....	7, 2, 91	90	81	66	83	64	70	83	80	85	78
Univ. of Wurzburg, Germany.....	7, —, 03	86	67	69	78	63	75	90	67	83	75 1-3
Woman's Med. Coll., Pa.....	5, 20, 03	88	77	76	73	77	72	78	81	92	79 1-3
FAILED.											
Coll. of P. and S., S. F., Cal.....	5, 15, 06	80	66	51	79	55	53	66	68	82	66 2-3
Univ. of So. Cal., L. A., Cal.....	6, 13, 05	79	68	71	79	84	76	66	40	79	71 1-3
Am. Coll. of M. and S., Ill.....	5, 17, 06	78	62	43	77	71	60	51	80	82	67 1-9
Cincinnati Coll. of M. and S., O.....	2, —, 75	70	41	56	82	72	70	31	30	73	62 7-9
Coll. of P. and S., Chicago, Ill.....	6, 16, 05	75	64	69	75	88	60	74	60	86	72 1-3
Coll. of P. and S., Chicago, Ill.....	4, 14, 98	79	80	75	78	89	50	64	49	76	71
Coll. of P. and S., Chicago, Ill.....	4, 13, 93	50	42	38	72	60	53	36	76	71	55 1-3
Coll. of P. and S., Keokuk, Iowa.....	2, 26, 90	80	64	47	85	68	60	60	77	79	68 8-9
Denver Coll. of Med., Colo.....	4, 16, 95	75	58	62	72	70	47	70	45	80	64 1-3
Imperial 1st Higher Med. Coll., Tokio, Japan.....	12, 27, 92	65	48	54	84	65	35	29	42	79	55 2-3
Med. Coll. of Ohio.....	3, 1, 82	52	54	60	74	67	35	51	32	53	51 1-9
Queen's University, Ont., Can.....	4, 23, 88	62	56	50	63	75	55	49	26	78	55 1-9
Univ. of Louisville, Ky.....	6, 29, 05	68	63	56	79	77	63	48	50	79	64 7-9
Univ. of Michigan.....	7, 1, 86	79	63	—	83	75	60	58	52	70	60
Univ. of Tenn.....	2, 22, 88	75	51	50	82	73	41	75	60	54	62 1-3

NEW LICENTIATES.

Alden, Eliot, Harvard Univ. Med. Coll., Mass.; Anderson, Chas. W., McGill Univ., Montreal, Can.
 Beattie, John I., Cooper Med. Coll., S. F., Cal.
 Carey, Henry B., N. W. Univ. Med. School, Ill.; Chidester, W. C., Medical Coll. of Ohio; Cloud, M. M., Univ. of Kans.; Creamer, Michael S., Kentucky Sch. of Med., Ky.
 Eldenmuller, Wm. C., Univ. of Cal., S. F., Cal.
 Feser, Joseph, Univ. of Wurzburg, Ger.; Franklin, J. H., Univ. of Cal., S. F., Cal.
 Haber, Wm. J., Coll. of P. & S., N. Y.; Hays, Wilfred B., Univ. of Cal., S. F., Cal.; Howard, Edw., Harvard Univ. Med. Coll., Mass.; Hubble, J. E., Univ. of Va.; Hunter, Geo. G., Univ. of Cal., S. F., Cal.; Hyde, Lawrence B., Cooper Med. Coll., S. F., Cal.
 Isnardi, M. C., Royal Univ. of Turin, Italy.
 Janss, Edw., N. W. Univ. Med. School, Ill.; Johnson, Julia R. Youngman, Woman's Med. Coll., Pa.; Jones,

Chas. B., Univ. of Cal., S. F., Cal.; Kneeder, Wm. L., Jefferson Med. Coll., Pa.
 Lven, John B., Hosp. Coll. of Med., Ky.
 Marxmiller, Harry G., Med. Coll. of Ohio; McEnery, W. A., Royal Coll. Surg., Eng. & Royal Coll. P. Ire.; McReynolds, R. P., Univ. of Penn.
 O'Reilly, Thos. W., Jefferson Med. Coll., Pa.; Owen, Carl S., N. W. Univ. Med. School, Ill.
 Patek, Robert, Johns Hopkins Univ., Md.; Peck, J. W., Univ. of Cal., S. F., Cal.; Pomeroy, Geo. T., Oakland Coll. of M. & S., Cal.
 Rees, Bynon, R., Harvard Univ. Med. Coll., Mass.
 Sherer, Wm. W., Univ. of So. Cal., L. A., Cal.
 Temple, Jackson, Univ. of Cal., S. F., Cal.
 Waggoner, Eugene L., Chicago Homo. Med. Coll., Ill.; Wallace, E. P., Hering Med. Coll., Ill.; Welsh, Prudence M., N. W. Univ. Woman's Med. Sch., Ill.; Whiting, F. M., Cooper Med. Coll., S. F., Cal.
 Lillie L. Koerber, Luther M. Cain, Seymour E. Ball, and Wm. J. Reed were granted licenses after removing conditions at this examination.

In view of my assuming the Directorship of the Lane Hospital Radiographic Department, I have for sale at cost price—

1—A new Biddle Jumbo Coil. It is constructed on the German plan, with varying inductance, and is especially built for the direct current for quick work. It is not suitable for the alternating current.

2—An unused Radiographic table with compression diaphragm (Biddle).

3—An unused Rheostat (Biddle).

This outfit was acquired after the fire with a discount.

DR. C. M. COOPER,

2411 Fillmore Street, San Francisco.

California State Journal of Medicine.

Owned and Published Monthly by the
Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor
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Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V FEB., 1907. No. 2

EDITORIAL NOTES.

The Appellate Court, when it so gratuitously and intelligently reversed the decision of the Supreme Court in the case *ex parte* Gerino, and **NEEDLESS** in the Arwine case, stated that our **ANXIETY.** medical practice act was unconstitutional, not only did a rather stupid thing, but also made a lot of trouble for the secretary of the State Society. Of course, the Board of Examiners promptly appealed the Arwine case to the Supreme Court, and, equally of course, the Supreme Court as promptly reversed the Appellate Court and sent the case back for a rehearing. What new foolishness the Appellate Court may subsequently be guilty of, no man can say; for any judicial body that will go out of its way to display its ignorance by calmly reversing a decision of the Supreme Court, may be expected to commit almost any edifying "stunt" in mental gymnastics. We thought that this had been fully explained in the December *JOURNAL*, but apparently many of our members are too busy to read their *JOURNAL* carefully, and, having heard of the first decision of the Appellate Court, and not of its subsequent upsetting, they have the mistaken impression that our medical law has been declared unconstitutional. This is most emphatically not the case. The fundamental points in the law were fully sustained by the Supreme Court in the now celebrated case, *ex parte* Gerino. In that decision the Supreme Court held that the Legislature has the right to delegate its appointing power and that it was constitutional for the Legislature to instruct the State medical organizations to appoint or elect the persons who should serve on the Board

of Medical Examiners and carry out the police provisions of the law. In the same decision the Court also held that the Legislature could not intelligently fix the standards of requirement, as these were subject to natural change from time to time; the Association of American Medical Colleges, on the other hand, would be ever in touch with advances in medical science and could the more satisfactorily fix these standards of requirement. These two points are the fundamental points of the medical practice act—and they have already been declared constitutional by the Supreme Court. Therefore, do not worry about what the *Los Angeles Times*, or any other daily paper that attempts to know all about medicine and things medical, may print. Do not allow any one to alarm you by saying that our law is unconstitutional or that it may be declared so, for it has already been passed upon and its constitutionality sustained.

This is not the case, however, with the law passed in 1901 regulating the practice of osteopathy. That law has recently been declared **OSTEOPATHIC** unconstitutional. (**PHYSICIANS.** *Superior Court, Los Angeles; W. P. James, J., Dec. 28, 1906.*) The law authorized the board to issue a certificate to any osteopath presenting a diploma from a college of osteopathy recognized by the Board of Examiners, but did not define *what qualifications a college should have in order to be so recognized.* The decision specifically states that not a single portion of the act is in question, but the entire act, and it is declared null and void. As a result of this, the osteopaths have applied to the Legislature now in session for a new law; in fact, at least two bills have been introduced up to the time of writing and we understand that a third is to be presented. Now this opens up a pretty wide field. It is a well-known fact that whatever the expressed intentions of the osteopath may be, when he is licensed to practice osteopathy he really begins to practice medicine. He dubs himself an osteopathic physician. A physician is one skilled in physic; in the administration of remedies. Furthermore, at least one of the osteopathic bills already introduced gives the practitioners of that cult the authority to sign death certificates, etc., and makes them come under the supervision of health boards, etc., the *same as any other school of medicine!* Two Attorneys-General of this State have filed opinions that an osteopath is not a practitioner of medicine, nor a physician. There was nothing, in the law which has just been declared unconstitutional, which required an applicant to practice osteopathy, to exhibit his knowledge or training or proficiency in osteopathy; he merely had to file a diploma from some college approved by the board. And yet it is claimed by all colleges of osteopathy that they teach the same fundamental branches as are taught by schools of medicine, and that they only differ in the matter of materia medica and the practice of osteopathy. If this is the case, why not have the same fundamental standards of educational

equipment for all? Why determine the extent of education in anatomy for a graduate of a medical school and fail to determine the same thing in the case of an osteopath who claims to have an equal and similar fundamental education? Let us read what *The Osteopath*, a journal of that sect published in Los Angeles, has to say on the subject in its issue for November-December, 1906:

"The applicant for a State certificate of qualifications to practice medicine in the State of California must take an examination in the following subjects: Anatomy, physiology, bacteriology, pathology, chemistry and toxicology, surgery, obstetrics, materia medica and therapeutics, theory and practice of medicine. The applicant for a certificate of qualification to practice osteopathy should properly be examined in all of the foregoing subjects except materia medica and theory and practice of medicine; in lieu of these, he should be examined in gynecology, physical diagnosis, and principles and practice of osteopathy. The present medical board is composed of regulars, homeopaths and eclectics. The applicant for a State certificate is examined by the mixed board on all subjects except materia medica and principles and practice of medicine. On these subjects he is examined by the representative of his particular system. In other words, in the branches of science common to all, one examination is conducted; in the special materia medica and theory and practice of it, the regular is examined by regulars, the homeopath by homeopaths and the eclectic by eclectics."

Now, let us consider the claims put forth by the osteopathic colleges as to the fundamental instruction given. Fortunately, the *Texas State Journal of Medicine* has compiled a list of the text books recommended by a number of schools, including regular, homeopath, eclectic and the American School of Osteopathy at Kirksville, Mo. In the list of text books recommended by the last mentioned institution, we find a total of 118 titles; of these 112 are written by members of the regular profession, and but six are by osteopathic authors. In the subject of "Practice," we find 38 titles listed, and of these but 4 authors are of the osteopathic school. Of the 34 books on practice written by regulars, we find such names of authors as Anders, Osler, Tyson, Eichhorst, Stelwagon, Hyde, Pusey, Dana, Barker, Fox, etc. Would it not appear from the text books used and the instruction alleged to be given, that the practice of osteopathy comes mighty near the practice of medicine? Then why have a separate and distinct board to license osteopaths? Why permit one board to license persons, without any demonstration of their fitness, to practice medicine under the name of osteopathy? Is the State safeguarding its people properly and fully if it says that any one to practice medicine as such must demonstrate his fitness, but that he may practice

medicine, under the cloak of osteopathy, without inquiring into his qualifications to do so? As we have already seen, in the paragraphs quoted from *The Osteopath*, even the members of that cult raise the question themselves. Granted that the given individual has had sufficient education in the fundamental branches of medical science (as taught in all medical schools, and which the osteopaths say they teach in their colleges), to pass an examination at the hands of a composite board, do you think he can do much harm, whether he gives big pills, or little pills, or no pills, or massages the spine? He certainly must have enough knowledge of anatomy and physiology and pathology to keep him from going farther astray than the average educated physician, and that is all that the State does or should require, and all that the courts hold should be demanded of him who treats the sick. Then, why not concentrate the police work of the State, so far as it deals with healing the sick, in the hands of one board? Do away with the examination in materia medica and therapeutics and principles and practice of medicine, and simply require every applicant of whatever school or pathy to take the same examination which the disciple of any other school is required to take. Is this not a rational and practical solution of the problem?

The State journal that does not give its active as well as its passive support to the work of the Council on Pharmacy and Chemistry of the American Medical Association, is by implication making its State medical organization a traitor to the American Medical Association and a deserter from the camp of its friends. It was the House of Delegates of the A. M. A. that established and made permanent the Council. It was done with the overwhelming approval of the delegates representing the State organizations, and those organizations must either support the work or repudiate it. For two consecutive years they have supported it in the House of Delegates of the A. M. A., and now they must either support it in their own home States or stand charged with hypocrisy and double dealing. If a publication, owned and controlled by a medical society which has gone on record as supporting the Council, persists in advertising the rank and worthless frauds which have been exposed by the Council, how can we reproach the published-for-profit journals, or even the *Medical Record* or the *New York Medical Journal*, for doing the same thing? And the work of the Council is all for the purpose of securing just one little thing—nothing more or less than simple truth and honesty on the part of the manufacturer who presents his wares for our consumption. Is that too much to ask? Just simple truth? Is there a medical society in the United States that would have the nerve to go on record as opposing the fight for truth and honesty? And yet a number of the organs of State medical organizations are tacitly opposing this work and this struggle for truth, by ignoring it. Last month the JOURNAL had a few words of criticism in regard to the policy

of the *New York State Journal of Medicine* and the manner in which its advertising pages tended to defeat the work of the Council and of the association. There are other State journals just as bad, or worse, and from time to time we may be tempted to have a heart-to-heart talk with the gentlemen who control them. Just at this time, however, we wish to call your attention to the list of remedies already approved by the Council, which you will find in the advertising pages. Take this page out and put it on your desk, where you can consult it, and try and see whether you can not successfully practice medicine with the remedies of the pharmacopeia and those new and nonofficial ones which have been approved by the Council. If a detail man comes to see you, look through the list and see whether his valuable preparation (they are all always "valuable preparations"!) has been approved by the Council. If it has not, tell him what you think about it—and him—and the "house."

The Legislature is, as you are doubtless painfully aware, now in session. There will be numerous

PUBLIC HEALTH LEGISLATION.

There will be numerous bills affecting public health matters introduced; indeed, quite a goodly number have been introduced at the time of writing. Some of these are good and should receive our support; some are bad and vicious and should be rejected. There will also be a number of bills relating to medical license and to the licensing of osteopaths, naturopaths, neuropaths, etc. All of these bills will be very carefully studied by our attorneys and by our Legislative Committee, and the secretary of the State Society will keep the component societies in touch with what is going on. Our profession has always occupied a too retiring attitude in regard to these matters of public health. We have a very considerable potential influence and it is high time we woke up and used it for the protection of the public in matters in which we have knowledge and they are ignorant. What layman, for instance, would realize the true nature of a bill like the naturopathy bill, which would license any form of quackery known? The bill reads most learnedly and is quite as high-sounding as though it were the real thing. Our legislators are busy men; they have not time to study each and every proposed law that comes before their attention, least of all many of these public health measures, the real importance of which is often not on the surface nor in the title. It is our plain, simple duty to advise them of what these things mean. It is the duty of each county society to take up these questions energetically and to instruct the legislators from its section as to the right and the wrong of bills of this class. No one of us can do much alone; nor can we do much unless we work together, at times each giving way somewhat to the views of the great majority. Elsewhere in this issue, we print a list of the members of both houses of the Legislature. This is printed not merely to fill space, but for your own reference. When the time comes that you are asked by the

society to support or oppose some measure, refer to the list and write, if possible, to every member of the Legislature; certainly to your own representatives. And do not stop there. Go to your friends and patients amongst the influential laymen. Explain to them what the import of the proposed law really is and how it affects the general public and how your medical society stands in regard to it, and ask their help. It is astonishing how much the opinions of influential constituents affect the attitude of legislators! We shall count on your help and we feel more than confident that we shall not count in vain.

The condition of things in the matter of the minimum fee for life insurance examinations is becoming very interesting. As you will **INSURANCE** doubtless recall, your **JOURNAL** was **SITUATION.** the first to take up the matter actively and oppose the cut from \$5.00 to \$3.00. Slowly the movement has grown until it is being very actively prosecuted in many States. We note with pleasure that the State journals of Texas, New Jersey, Kentucky, Pennsylvania, and some others, have taken vigorous stand and are encouraging their members to fight for a decent fee. In our own State, more than half of the county societies have gone on record as absolutely opposing the cut, and in many of these counties the three-dollar companies can do little if any business. The other day we learned that the New York Life was so hard put to it in Santa Cruz county that they had offered several men a salary of \$25.00 a month in addition to the fees, if they would accept the \$3.00 fee on small policies. If we are correctly informed, and we believe we are, no one has yet been secured in that county who will do the dirty cut-rate work. Three other companies have issued instructions to their California departments to pay the \$5.00 fee whenever it is demanded. Just remember that and always demand the \$5.00 fee; if the company happens to be one of these three, you will get it; if it is not, do not make the examination. This is one of the fights we are bound to win if we simply stick to it and to each other. Do not be discouraged; things are coming our way pretty fast and eventually we will win out.

Under this caption, the *Texas Courier-Record of Medicine* for December, 1906, prints an editorial that is somewhat interesting. It seems "IS IT" that all papers read before the Texas "RIGHT?" State Medical Association and the various district societies which are affiliated with it, are sent to the *Texas State Journal of Medicine*, the official journal of the association, and that the "independent medical journals" can not secure them for publication. The *Courier-Record* asks, plaintively, "is this right?" Let us see what sort of an "independent" medical journal the *Courier-Record* really is. The page measures 4¼x8 inches, and according to the pagination of the December number, it contains 34 pages of text; of

these, however, 1½ pages are open advertisements. The reading matter consists of a report of a meeting of the North Texas Medical Association, about five pages of editorial matter and notes—and *seven pages of reading notices*. The readers of the highly valuable "independent" medical (?) journal under discussion are given most wonderful statements as to the efficacy of Vin Mariani, glyco-thymoline in obstetrics (!), antikamnia, glyco-heroin, Gray's glycerin tonic (2 of it), Calcalith (Abbott), resinol ointment (advertised extensively to the general public), peptomangan, and bethol-ol, which statements are carefully prepared by the manufacturers, so that the trusting reader may be sure to get his information uncontaminated. In the advertising pages we find such things as neurilla, Hayden's viburnum compound, antikamnia, antiphlogistin, pepto-mangan, tongaline, celerina, aletris cordial, seng, cactina, chionia, sanmeto, katharmon, anasarcin (the sure cure for dropsy!), bromidia, etc. With a delicate thoughtfulness, the editor has slipped an advertising page immediately in front of the "editorial" page, and on this we find displayed hydrozone and antidolar. Now, is it not right that any self-respecting physician should prefer to have his paper go to the *Texas State Journal of Medicine*, which prints a good many valuable original papers, and good, clean, live editorial matter, and which does *not* disgrace its pages by printing the puffs sent out by the manufacturers themselves to delude physicians into using their nostrums; nor permit the advertisements of these nostrums in its advertising pages; rather than to send his paper to a publication of the scarlet-hued sort—the kind that might well be classed with the "oldest profession in the world"? And this *Courier-Record* is of the class of "independent" journals now bewailing the establishment of State journals and clamoring loudly about "journal trusts" and the attempt to kill all "independent" medical journals! Heaven save the mark! What is it "independent" of? Decency? Self-respect? Honesty? It certainly is not independent of the ball-and-chain of the nostrum maker, so it would seem to be independent of the medical profession.

SOME IMPORTANT AND PRACTICAL POINTS IN MEDICINE.

By IRWIN N. FRASSE, M. D., Los Angeles.

Years ago this vast continent was teeming with Indians. In a few places where food was scarce and circumstances unpropitious they were a miserable-appearing race, but where there was game enough, and this held for most regions, they were a magnificent-looking lot of savages. Probably nowhere on earth were there to be seen such fine physiques; tall, straight, lithe, deep-chested and untiring. Sickness was almost unknown to them, except contagious diseases, and these were brought in mostly by the whites.

I might incidentally remark, in regard to the susceptibility of dark-skinned races to eruptive fevers, that about 1840 some white men recovering from smallpox came into a village of the Mandan

Indians. There were 1001 persons in the tribe. Of these 998 died of the fearful scourge—not a bad plea for vaccination, by the way—leaving but three living members!

These splendid physical specimens had no houses like ours. Indeed, in the tremendous distances that they made on foot and horseback they had no shelter at all except the scant protection afforded by a few pieces of brush in the form of a rude lean-to. Nor had they changes of clothing. Indeed, what they wore was little enough and in rain, hail or snow they had to lie down and sleep in their wet buckskin garments.

Our own borderers and cattlemen in early days had to do similarly. The late Mr. Charles Chapman told the writer that often, in California and Nevada, when night came, he and his men would surround the cattle, some lying down while others watched the herds. When morning came and he lifted his poncho from off his head and shoulders perhaps he would find that several inches of snow had fallen on it while he reposed serenely beneath.

The Indians, and such other hardily brought up people, almost never took cold. What power did they have, inherent to them, that is lacking so much in modern people? That power was what we call *tone*.

And what is tone? The dictionary says that it is "The degree of firmness or normal tension proper to any organ or tissue of the body. Also the general condition of body with reference to the vigorous and healthy discharge of its functions."

Tone is partly hereditary, probably mostly so, but part is acquired, especially in early life; not by giving in but in striving against the elements in an endeavor to make yourself superior to them—always with discretion, of course. This is to be done, not by keeping one's children indoors just because it looks a little threatening, but by sending them out in every kind of weather that it is possible for them to be out in, with proper protection, so as to acquire hardiness from very childhood.

What is *tone*, then? My own definition would be that: "It is that condition which keeps one's capillaries all over the body in a condition between contraction and expansion, *even under adverse circumstances*."

When a person catches cold, that is, when his tone gives out, what is the process? Suppose one puts himself in the place of one of these Indians. Imagine yourself lying down in wet clothes, what would happen to you? First of all your feet and legs would begin to be cold. The very fact of their chilling would suggest that the warm blood was being driven away to some other part; that some other region was being dilated and congested, and, unless you should be careful you would have, perhaps, infection added with actual inflammation, for that is what inflammation is—the reaction of the tissues against an irritant, usually, if not always, germs.

So you would begin to sneeze. Mucus would begin to form in your nose from the congestion of

your nasal erectile tissues. Some of this mucous would be retained in your head and, fermenting in such a hot place, you would be well aware pretty soon that you were the recipient of a blooming cold and perhaps of a sore throat. Perhaps your lungs are the point to which the blood rushes and you get at least a bronchitis. Perhaps more blood than usual determines to your tonsils and you are affected with a tonsillitis. Perhaps you have an appendix, or if a woman, an ovary, of which the tone is below par and you suffer accordingly its congestion or inflammation.

Now, very often, one's congestion does not go very much beyond physiological bounds and you have only a little achiness. Sometimes, however, it does not stop at a slight ailment, but goes on to severe trouble.

There must be some special reason for this. There must be some cause by which one's tone is lowered, this power of keeping the capillaries so beautifully contracted. Something must come into the system, be absorbed, which lowers the tone of otherwise healthy organs so much that they take on actual inflammation. These conditions are very common, therefore the condition which furnishes this entrance and absorption must be very common.

What infected substance comes oftenest into one's body? Why, food, naturally. If, therefore, one takes into his body food infected with germs which upsets his digestive power, or if one eats food which is simply ill-prepared, very soggy perhaps, or very indigestible, heavy, pasty, or highly flavored mixtures, etc., a certain amount of indigested residue remains, forming a beautiful nidus in the hot juicy intestines for germ growth. Absorption of such toxic, paralyzing substances is the ideal method of upsetting one's tone.

These toxins produce an unstable condition, a lowered vaso-motor tone, which permits of the sending of large quantities of blood to whatever region or organ the particular person and existing conditions predispose to.

We will assume that an extra large amount of blood goes to the tonsils. Now, Mr. Westcott, the brilliant, but unfortunately tuberculous, author who died just too soon to see the great success of his clever book, "David Harum," said that "A certain amount of fleas are good for a dog; they keep him from brooding over the fact he is only a dog." And maybe a certain amount of streptococci are good for the tonsils. But when, suddenly, the floodgates of their living are thrown wide open and increased quantities of blood begin to come to them, they at once take on new growth, until the tonsil, teeming with them and made sore by their excretions, is in a state of painful inflammation. In the same manner a temporary condition of the lung goes on to actual inflammation, with the production of a pneumonia.

One gets a congestion of his ileocecal region and his appendix, that degenerate little organ so important in some of the lower animals, which, when inflamed, from its anatomical make-up relieves itself so poorly, perforates from the severity of the process to which it is subjected. Nearly always, if one

will inquire and keep his eyes open, he will observe a dyspeptic disturbance before or with these conditions, even though the affected organ be far distant. Several times has the writer observed middle ear attacks follow or occur during an attack of appendicitis.

If one is full-blooded, particularly if one has eaten a large meal of indigestible substances, the dilatation may occur in the cerebral arteries with a resulting apoplexy. Nor is this condition of apoplexy explainable by the supposition of heart stimulation and harder beat alone, for often times it is not during the time of a heavy dinner, with wines, that this kind of an attack comes on, but hours after, toward the late hours of night, toward the time when food decomposition and absorption have taken place.

Perhaps a turn over in bed or some other sudden movement may suggest itself to you as the exciting cause, but *why* should it produce a sudden determination of blood to the brain at such a time? Because of the cerebral vaso-motor dilatation caused by toxic absorption.

I can best explain what I mean by saying that I once had a water pump in my office which filled an air tank. When the air pressure was maintained at a certain point the water pump acted slowly and almost imperceptibly, but the instant the air pressure became lowered the water pump took a jump to fill the vacuum.

Several times the writer has seen a profound coma come on after a heavy meal, as after a Christmas dinner, usually in anemic individuals entirely free from any kidney lesion. Such persons are usually of low vitality. Kept waiting to an unusually late hour they have partaken with extreme gusto of an amount of food which has been beyond the power of their weak digestive juices to assimilate. A pasty infected mess has gradually found its way down into the intestines.

As you have probably often noticed yourselves, the digestive power becomes less as one goes further down in the digestive tube, while absorption, of good or bad products, becomes greater. Just such results come about in the kind of case under consideration. An immense amount of septic material is absorbed, a paralytic vaso-motor condition (always that loss of tone) results with dilatation of the brain or brain coverings and perhaps the individual is found on the floor, totally unconscious, yet without an apoplexy, where he had fallen hours before.

Now, I think, it is plain to you what tone implies and how important it is.

1. How shall we acquire tone? 2. How shall we keep it? 3. And, from the standpoint of etiology, what is the natural treatment of these various diseases, if they have a common basis?

How shall we acquire tone? Well, that brings us into consideration of a certain amount of question two; for to acquire means not to waste it. It means not to be neurotic. It means not to run your brain and spinal storage batteries down too completely by continued, exhausting work.

Hard work, up to a certain point, is stimulating,

but if rest does not come then it is exhausting and, if too long continued, it may produce an actual degeneration, a paresis, which often follows too long-continued strain. Not only must we husband our forces, but we should not produce neurotic individuals. A person who is conscious of any such make up in his constitution should marry an individual who is of good physique and equable temper.

We should bring our children up from babyhood to cool baths, so as to perfect the capillary circulation and help to increase the red blood corpuscles. We should put them where the air is best—out of doors. We should give them swinging rings, a flying bar, a rowing wagon, and other things to build up their arms, chests and backs, so lamentably weak in Americans, especially in our women. While to produce heart strength and lung power and quickness and to develop the nether extremities give them base balls and footballs and especially a dog as a playmate, all of which will teach them to run.

And the more active the dog the more active your child will become. For my own boy I happen to have two dogs. A good-sized, good-natured setter that he may pull and haul around, thus getting lots of arm and chest development—much to honest Ranger's disgust. The other is an unusually active little dodging fox terrier that he chases around all day long with great glee.

Don't put unnecessary clothes on your children. Let them go without hats when they are playing. Accustom them to low open sandals or moccasins or let them go barefooted part of the time. Furthermore, you can't make a lasting, anthracite fire out of shavings, and you can't grow a fine specimen of physique out of pies and pastries and other mixtures which develop in a child a craving, an artificial appetite, for things which won't do much good to the exclusion of simple, but wholesome, blood-making food for which, produced by excellent health and a large amount of exercise, he should have as eager a longing as a spoiled youngster has for its pastry and confections.

In the line of upbuilding and developing of human beings a novel, so called, by Stanley Waterloo, but really a scientific work that I have lately been reading would appeal to you, as educated physicians. It is called "The Adventures of Ab"—a tale of the time of the cave men. It puts into the life of one man the advances and developments of countless ages and describes the daily adventures and dangers to which individuals were exposed, as well as the gradual stronger and stronger cementing together of human beings into families and clans.

Furthermore, we should teach our children to conserve their energies, upon which modern life makes such great demands. We should teach them how to be capable, that they may so well know how to carry on the work that will be required of them in after life that it will be easy for them. We should make companions of them and teach them from the first the why and wherefore of everything that you or they may do—the best and easiest methods of accomplishing results.

Teach them to be good natured, to stand reverses with fortitude and still keep trying; not to fly off at a tangent and become cranky and cross or excited either, at every little occurrence, for that makes the harness rub. Instill into them some idea of hygiene. Above everything see that they get plenty of sleep, for short hours of sleep make long hours of nervousness. The greatest conservator of nerves, and, therefore, of energy and tone, which we have, is natural sleep.

What you have instilled into the child endeavor to keep up in the adult. Teach them that work, earnest hard work, is one of the greatest pleasures of life and not a hardship. That it makes one more independent and more of a man than anything else. And that even wealth should never make one give up his life work until too great age shall make him incapable for anything else but a noble example and an instructor and adviser to the young.

And then they will learn the lesson that, with a fair income, with the necessities and a few of the luxuries of life, self earned, they will become indifferent to these very riches, for they will be experiencing right along the pleasures in life that some people grasping, grasping, ever grasping after that delusive *ignus fatuus*, wealth, are "going to have" some day, but who often die prematurely, miserably, perhaps dishonestly, without ever having attained their end. Work while you work, but yet within reason. When you become over-tired, appreciate the necessity of a vacation.

And now for the diseases themselves and their underlying condition, lack of tone. If the cause is due to intestinal absorption, the rational treatment of such a thing would evidently be not to put indigestible things into the canal. And that implies care of food, especially in those with sallow skins, so called "bilious" individuals. The next thing to do would evidently be to get rid of anything producing this effect and that means to sweep it out by cathartics.

Mere sweeping out, however, seems to be not always enough, for evidently some of these germs and germ products will not be swept out. We need something that is antiseptic, something that will prevent their proliferation; something that will sterilize the intestinal canal as far as it is possible relatively to sterilize that tube. Therefore we give a mercurial cathartic. If our treatment has been well carried out this will prevent further fermentation and absorption of poisonous principles, so that there will be no more infection added.

We must equalize the temperature by keeping the feet warm and head cool, and we must bring to bear upon the special organ concerned the treatment especially required by it. Over the appendix or the congested lung we should place icebags. To the ear one should apply heat or cold, whichever seems best. For the tonsils we should apply local measures, but, in addition, give internally so-called rheumatic medicines, which seem to relieve such troubles best.

Headaches, and even certain types of insanities, I

fully believe, have the same underlying cause that is here suggested and, working along these lines, I have seen some cases of insanity clear up for good that, until this underlying cause was recognized, one would have considered hopeless.

When an organ is in use it requires more fuel, that is, more blood. Therefore, physiologically, nature dilates the capillaries and permits of a greater influx of nutrition. Suppose, however, that the individual overuses that organ. Let us suppose that he be a man of large and varied business interests. His brain is working hard perhaps without proper cessation and blood is demanded in great quantities. After a while such a brain may not clear itself well. The physiological and temporary dilatation, so beautifully under control in a fine physique, becomes pathological. The individual can not shut off that blood supply when he wishes. An overfullness supervenes, with or without headache. When he lies down at night he is not able to produce the physiological brain anemia demanded to welcome sleep and he lies awake, wretched, teeming with thoughts that he would like to absent, falling late into a perturbed sleep from which he awakens in the morning unrefreshed. And from this stage to actual brain degeneration is not a great stride.

There are some fine points in this matter, some of which have probably occurred to you. Such a one came up for the consideration of two other members of this society and myself in a case that we saw in consultation last winter.

The case was that of a baby, an unusually large child with rather large head. Labor had been long and difficult and was followed by very frequent convulsions of an epileptoid character, which subsided only to lesser attacks, alternating with twitchings, even under bromides and chloral.

We feared that the attacks might become permanent. In other words, what we especially dreaded was that some slight brain focus of injury might remain in a state of congestion, through the lowered state of tone produced by toxic absorption from food which might not be agreeing with the baby, or that it might even become infected from such a cause so that a permanent epileptic condition might result. We therefore decreased the milk supply to a minimum, partly because we feared that the milk might be introducing poisonous substances into the body and partly because, keeping the blood up to too great a richness, the mother might be furnishing a fluid favorable to the continued proliferation of harmful substances already there. We also determined to clean the intestinal tract fully and to sterilize it with a mercurial repeatedly. We further gave ergot, if I remember correctly, for a few days, to contract any dilated capillaries, of which the tone might be lowered, thereby inviting infection and permanent change.

We were able to withdraw the nervines soon after and the child made an excellent recovery, with the likelihood that it will be permanent, now that a good many months have gone by without a return.

ADDRESS OF THE RETIRING PRESIDENT, DR. J. LAMBERT ASAY, SANTA CLARA COUNTY MEDICAL SOCIETY, DECEMBER, 1906.

The organic law of your society compels its officers to submit a report of their work upon the ending of their official term. It also makes it mandatory upon your president that he shall contribute matters of interest which have occurred during his administration and to offer such advice as in his judgment he may think proper for your own guidance and the welfare of your organization.

On the 12th day of August, 1876, the present society was organized with the following membership: Drs. Benjamin Cory, J. D. Scott, A. McMahon, M. S. McMahon, J. B. Cox, J. N. Brown, Robert Caldwell, A. Castleman, W. S. Thorne, Jared Turner, P. M. Lusson, C. K. Farley, of Gilroy, and A. W. Saxe, of Santa Clara. Of these but two are living today—Dr. Robert Caldwell, who is still with us, and Dr. W. S. Thorne, who is now a member of the San Francisco County Medical Society. Each of the original members named has ever been recognized as being among the most cultured of our profession.

Looking over the records of the society for the past thirty years we find conditions during that time much as they are now. The minutes tell of resolutions condemning lodge practice; of agreements among its members not to accept such contracts made and broken; to provide for a uniform fee bill; to establish a medical library; to maintain a blacklist of nonpaying patients; of laws passed forbidding the publication of physicians' names in the newspapers of the day in connection with surgical and other cases in practice. In January, 1877, there appeared to be doubt concerning the propriety of admitting women to membership in the society. Justice, however, perhaps, seasoned with chivalry, at length prevailed, and Dr. Sara E. Brown was elected our first woman member. In September, 1880, members were forbidden, under pain of expulsion, to engage in consultation with "irregular" physicians. By "irregular" was meant homeopaths, eclectics and all others who should disagree in therapeutics from the teachings of the older school. Blue laws of centuries gone were no less intolerant. Liberality of opinion and broad-mindedness in expression have been the conquerors. Learning has been progressive. There has been no turning back the hands of time. Barriers between schools of different systems of practice, at first thought to be insurmountable, have been thrown down; let us hope never to be upreared again. With the medical profession of this great nation "pathy" is dead, and woe be to him that instills life into its corpse. The living body of today is the true physician. The plane is long and broad enough for all to tread upon.

In the administration of affairs of the society, able assistance has been rendered by the chairman of the Executive Committee. Too much praise can not be bestowed upon your secretary for his untiring zeal in making his office the model from which

other county societies may pattern. To him, in the greatest of measure is due your present progress and prosperity. Much of his own valuable time has been given in excursions with your president to outlying districts, visiting physicians that your membership might be increased and the profession of this county thoroughly organized.

By the adoption of the new constitution, the Board of Councilors was created to act as the legislative and business body of the society. So far it has accomplished the purpose for which it was formed by keeping extraneous matters and useless discussions from taking up the time of your meetings, thereby affording ample opportunity for the consideration of clinical subjects and scientific papers. In two or three instances it has been impossible to hold sessions of the council, and important business had to be deferred for lack of a quorum; but as its members become more familiar with the requirements of the by-laws as to times of meeting, it is to be hoped that future omissions will be avoided. When it is considered that all the business can be transacted in 15 or 20 minutes before the opening of the society's regular meeting, it is not too much to expect that those accepting official preferment at your hands, together with heads of committees, who compose the council, should devote so short a time to the business and welfare of the society.

For the last year and a half the society has placed itself under many obligations to the managers of the St. James Hotel. Without cost to us, and often with inconvenience to their own affairs, they have provided comfortable quarters for our meetings. Whether it is wise for the society to continue under these conditions or secure the rental of a hall for future meetings is a matter worthy of your consideration.

Previous to the recent calamity which overtook this section of the State a movement was inaugurated to hold semimonthly meetings. If this were carried out, I still believe it would be productive of great good to the society, with corresponding benefit to every member who availed himself of its advantages. A fair share of such meetings should be held at stated times in other parts of the county as first contemplated.

It will be remembered also that as a result of the great catastrophe many of our brethren in San Francisco were made homeless and penniless. Their wail of distress was borne to our ears on the winds of adversity. Not pausing to reflect how much you, too, had suffered, you not only bade them be fed, but you gave them food; they were without raiment and you clad them; to the perishing from the chilling storms that came you gave shelter and warmed them into life. You cast your bread upon the waters and it has returned to you far richer with every blessing only gratitude can bestow.

It has been recommended time and again by our State Society that each county society, through its members, take an active part in political affairs both at primary and general elections so far as the interests of the medical profession are concerned. With

organization and unity of purpose physicians can control their representatives and be able to prevent adverse legislation. This Society may take pride in the election of one of its members to the State Legislature besides aiding in the choice of two others who have pledged themselves to support the recommendations of the Board of Examiners and our State Society.

A county medical society is the organized representative of the profession in its jurisdiction. The opinion has been expressed that all appointments to positions on the medical staff of county and city administrations in public institutions and elsewhere should be made from members of the society. The best service to the public is not always obtained by the indiscriminate bestowal of office upon nonprogressive physicians as a reward for party fealty or in return for political favors rendered. In my own opinion the more energetic one is in his society work the better he is qualified for a public position of this nature.

Can any one say he has not been made a better physician by attendance upon our meetings? Has not the exhibition of patients before you and the comments thereon been full of instruction? Have not the valuable scientific papers read here and expression of views on their subject matter not broadened our understanding? And, lastly, has there not a more charitable feeling, each for the other, sprung up in our social intercourse, and from all these things are we not stimulated to go on in our great work for humanity? I believe that all this good has come to us. Let us be mindful of our own selves that it may endure.

It is with sadness that I now officially announce to you the death of two of our distinguished members in the past year. The first, Dr. Edwin Arthur Kelley, physician to Agnews hospital for the insane, was killed while attempting to rescue patients from the falling building on the memorable morning of the 18th of April last. The second, Dr. Pedro M. Lusson, one of the founders of this society, died November 26. Both left the imprint of their noble sacrifices and generous deeds on the tablets of memory.

I am retiring from the chair tonight, in which you placed me eighteen months ago, with a mind filled with emotional thoughts; thoughts of your kindness, your indulgence and your courtesy toward me at all times and in every place; and I am thinking, too, of the victories and defeats that will be yours. Six days more and I shall have reached the years appointed of three score and ten. It is half a century since I began my work in our profession. Younger men must take up the burden I now lay down. May I not speak to you then as one of my age and service can have liberty? In your professional intercourse with each other, and in your society work diverse ideas will sprout, perhaps take root. When these do confront you be ready to concede without passion the right of opinion though you may not agree. If you see fault in another remember that no one wears a corselet that can not be pierced by the rapier of retaliation. As pro-

gressive medical men and women you can not do without interchange of thought; you can not do without society work, neither can the society do without you. It is only by the constant exercise of the faculties of all our being that we can hope to grow. There must be no halting in our progress, no resting by the wayside. Climb to the top-most branches of the tree of learning and gather their ripened fruit. Knowledge is a gem among others in our casket. New discoveries are within your reach; new triumphs await you; seek them out and add fresh laurels to the trophies already won. Cling to your society. Be zealous in its work for your own uplifting and the honor of your calling. Humanity has the right to expect of us our best endeavors. Our profession can rise to no grander height except as each of us helps to lift it there.

Finally, may I ask that the same loyalty shown the passing administration be given to my successor, and may it abide with him in every pleasing and generous sentiment as it has with me, and may the cordiality of our meetings, in which not a single-note of discord has been heard, be one continuous reign of peace and good fellowship among you.

OPERATIONS ON THE THYROID GLAND.*

By WALLACE I. TERRY, M. D., San Francisco.

Operations on the thyroid gland may be demanded on account of: First, thyroiditis; second, tuberculosis of the thyroid; third, tumors and cysts of the thyroid; fourth, goiter. Of these, by far the most important is goiter, and the greater part of this paper will be devoted to a brief consideration of the surgical features presented by it.

Inflammation of the thyroid unless it leads to suppuration, does not ordinarily demand operative intervention. When suppuration is present conservative incisions should be made for the relief of tension. Extensive dissections are unwise because of the danger of widespread infection of the deep planes of the neck.

Tuberculosis of the thyroid is very rare and demands no different treatment than tuberculosis of other organs.

Of the tumors of the thyroid gland the adenomata are the most common. They are generally noticed as asymmetrical enlargements and are usually single. That they, by degenerative processes, lead to cysts is believed by many pathologists. When they contain much colloid material or are deeply located it is very difficult to differentiate them from cysts. Early excision is the proper treatment for both. For one who is interested in the pathology of adenomata and cysts of the thyroid, the articles by Bloodgood in recent numbers of *Surgery, Gynecology and Obstetrics* (Aug., 1905, and Feb., 1906) are of much value.

The malignant tumors of the thyroid are the

carcinomata and sarcomata, the former being the more common. Early radical removal is the only therapeutic recourse in these cases which is of any value. That the results, so far as ultimate cures are concerned, are poor, is due in great measure to the tardy recognition of a malignant process. Kocher advises immediate operation in any case of goiter which shows a rapid growth, while Bloodgood urges that "every asymmetrical enlargement of the thyroid gland in individuals over thirty years of age should be subjected to immediate operative removal." Adhesions to and infiltrations of the adjacent tissues are generally found in the malignant tumors, and one must be prepared to remove portions of the trachea or larynx or extirpate some of the large vessels of the neck in operating on such cases.

Hypertrophies of the thyroid are classed as simple or exophthalmic goiters. In the former we do not have any constitutional symptoms except those produced mechanically by the enlarged gland, while in exophthalmic goiter the constitutional symptoms produced by toxins from the gland are varied and numerous.

The simple goiters may require surgical treatment:

1st. When they cause dyspnea from pressure on the trachea or dysphagia from interference with the esophagus. In goitrous districts it is no uncommon thing to see the trachea narrow and distorted to a marked degree.

2nd. When there is pressure on the recurrent laryngeal nerve. Occasionally the tumor is behind the sternum, in which case the dyspnea is apt to be more severe.

3rd. When the goiter is growing rapidly.

4th. When the mass is irregular or nodular.

5th. For cosmetic reasons when there are no contra-indications.

Between the simple and the exophthalmic goiter there are any number of varieties which do not admit of a satisfactory classification, and it seems best to speak of such cases as Basedow's disease or goiter with Basedow symptoms. The term exophthalmic simply refers to one symptom, while Basedow's or Grave's disease implies a symptom-complex.

Personally, I prefer the term Basedow's, rather than Grave's, because Basedow was the first author to give a comprehensive description of the disease, and also because the term is used more often in the literature of the subject.

The value of a proper operation in Basedow's disease is coming to be more and more recognized, so that there are few today who maintain the position that surgical interference is contra-indicated. It is believed by the majority of observers that Basedow's disease is due to hyperthyroidization, and it seems rational to lessen that effect by the removal of a portion of the gland. The various forms of serum therapy, the use of the milk or the blood of thyroidectomized animals or the preparation of a serum from the human gland, are being tried with varying degree of success, and it is proper that each case of Basedow's disease should have a thorough course of medical treatment—dietary, drugs, rest, etc.—be-

*Read before the San Joaquin Valley Medical Society.

fore surgical treatment is undertaken. There is no question but that a considerable proportion of mild cases are cured by medical measures alone, but should such measures fail to give relief within a reasonable time, the patient should be operated upon before he has lost his powers of resistance.

The mortality of thyroidectomy in simple goiter is almost *nil*. Kocher, of Bern, has done over 3,000 thyroidectomies, and in his last series of one thousand cases reported last April (*Zentralblatt f. Chir.*, July 14, 1906—No. 28—p. 70) he had but three deaths in 904 simple goiters; i. e., less than four-tenths of one per cent. His mortality in excisions of the gland for Basedow's disease was slightly under 2% in 52 cases. Total extirpation of the gland with removal of involved lymph nodes or adjacent structures for malignant disease of the thyroid is naturally attended by a higher mortality—in the neighborhood of 10%.

My personal experience embraces but 11 cases, 8 of which were Basedow's disease, 2 simple goiter and 1 secondary carcinoma of the thyroid, and I have been fortunate enough to have no fatalities in this series. One patient was in an advanced stage of Basedow's disease, with extreme tachycardia as one of the prominent symptoms, the heart beat at times being as high as 300 per minute. The removal of the hypertrophied right lobe was sufficient to restore her, in the course of several months, to a fairly normal condition. In another patient nervousness and exophthalmos were most marked. Her symptoms were very much improved by a partial thyroidectomy and a year later I was able to operate successfully upon her for a complete prolapse of the uterus. This leads me to mention that major operations on patients with Basedow's disease are frequently fatal. When circumstances permit, the goiter should be operated upon several months in advance of any other operation which may be necessary.

The technic of the operation which I prefer is essentially that as elaborated by the master surgeon, Kocher. The anesthetic of choice should be a local one, preferably cocaine or eucaïn, and only in exceptional cases should a general anesthetic be administered. The two principal reasons for this statement are:

1st. The danger of injury to the recurrent laryngeal nerve with its sequences of aphonia and inhalation pneumonia is great during general anesthesia, while with local any injury of the nerve can be at once recognized and steps taken to remedy the difficulty.

2nd. Hemorrhage is apt to be far more severe under general than local anesthesia. As a consequence of the above factors, the mortality is lowest when local anesthetics are employed. The pain which the patient has to endure is not great if the skin is infiltrated with a 1% solution of encain preceded half an hour by a hypodermic of morphin and atropin.

The collar incision of Kocher is, as a rule, the best for a goiter operation. It allows of a complete exposure of both lobes and from an ultimate cosmetic standpoint is the best, as the usual neckwear will conceal the scar. After division of

the skin and platysma muscles, the anterior borders of the sternomastoids can be slightly nicked and the muscles well drawn to the outer side. Usually it is necessary to transversely divide the sternohyoid and sternothyroid muscles. The capsule of the gland is then reached by blunt dissection and the lateral accessory vein, if one be present, exposed. This should be ligated and divided, then the lobe which it is proposed to enucleate should be dislocated forward. This I consider an important point because the forward dislocation at once relieves the sense of suffocation which most patients feel up to this time, and permits of ready access to the thyroid vessels. The superior and inferior thyroid arteries are identified and tied off. In dealing with the inferior it is best to make some pressure with a pair of artery forceps on the vessel and have the patient speak in order that one may know that the recurrent laryngeal nerve is not caught. After ligation of the vessel—and one should bear in mind that the veins are usually very friable—the division of the isthmus is next in order. By compressing the isthmus with a strong pair of forceps one can reduce it to a mere cord so that a small ligature will suffice for a stump.

Furthermore, compression will prevent in large measure the later flow of colloid material into the wound. Nothing more remains than to complete the toilet of the wound and suture the fascia, muscles, and skin. It is usually better to employ a small drain for the first 24 hours in order to carry away the serum and any exudate from the thyroid which if absorbed may produce thyroid intoxication.

PRESIDENT'S ANNUAL ADDRESS. LOS ANGELES COUNTY MEDICAL ASSOCIATION, DECEMBER 21, 1906.

BY FITCH C. E. MATTISON, M. D., Pasadena.

It has been the custom for your presiding officer to deliver an address upon retiring from the office to which you have honored him, and I hope I may be pardoned if in following this time-honored custom I shall depart somewhat from the usual practice of either writing upon some scientific subject or lauding the advances made in the line of medical progress, but shall, instead, speak of some of the aims and purposes of medical organization, and in doing so, call your attention to part of the work which your society has accomplished during the past year, and perchance call your attention to some of the shortcomings, and attempt to point out some needed advances, which, it seems to me, are timely and necessary, if we wish to keep up with the advances along other lines of scientific progress.

Before doing so, permit me to thank the members of this association for their hearty cooperation, which has made it possible for us to look back upon this as the most prosperous year of the Los Angeles County Medical Association since its organization. With an increase of the number of meetings from two each month to weekly meetings, our average attendance has been nearly up to that of last year, the total attendance being far in advance of any previous

year. The demands upon members for papers have been promptly met, and the character of the work better than ever. Our clinical meetings have been a grand success and should be continued; the increase in the expense of the association, caused by the increase in the number of meetings, will be more than compensated for by the increased interest in the work of the association and the character of the results accomplished.

Both medical and lay press have been doing much to help the medical profession to educate the public as to the evil effects of the use of nostrums, and we owe a debt of gratitude to the publishers of *Collier's Weekly*, which, through the articles written by Mr. Samuel Hopkins Adams, has awakened the public to the dangers incurred in the use of secret nostrums. A copy of these articles, reprinted by the *Journal of the American Medical Association*, has been mailed to each member of the association. We are also indebted to the publishers of the *Ladies' Home Journal* and others for the publicity given this subject. This is a movement that will gather momentum and it may not be long before some of our great daily newspapers, those great educators of the public, will realize that in giving up their pages to the use of any fake medical or secret proprietary advertiser who wishes to buy space, they are but adding insult to injury. Scan the pages of any of the daily papers which enter our homes, and you will find reading matter amongst their advertisements which should not be permitted to enter any home. An organized effort should be made to correct this evil. We have societies for the suppression of vice and the social evil; let us have societies for the suppression of fake medical and obscene advertisements of all kinds in our daily papers.

Allied to this is the evil of our prescribing the many "proprietary" preparations, really nostrums, which are continually being thrust upon us by the overzealous "detail man." Many of these are graduates of medicine, whose efforts to engage in practice have been a failure, and who readily find employment with the manufacturers of proprietary preparations and are assured a salary which is princely, in many instances, to what they could hope to make if they were dependent upon an income from the practice of medicine. They find remunerative employment introducing to the medical profession the preparations, many of which, as soon as they have established a sufficient reputation through the medium of the medical profession and the medical press, they at once commence to advertise to the general public. Our friend, the "detail man," comes to town, sells all the doctors he can a vibrator or violet-ray machine. The doctors use them and give very learned lectures to their patients upon the beneficial results of this new treatment; it sounds very nice to the patients as the lecture is *verbatim et literatum* from the versatile "detail man." At his next visit he installs a few vibrators in the barber shops and a massage parlor or two; then he has such a large demand for them that it is really necessary to put an advertisement in the local papers telling

the public that the Peruna Drug Store has the family size for sale at popular prices.

Does this discourage the physician? Perchance his enthusiasm is not so great, but he has his violet-ray machine to save the day until some quack medical firm advertises in the daily press how, by it, they cure all ailments at \$5.00 per month. And with the violet ray, they furnish radium water from the same machine. "Verily, I say, brethren, this is thy just deserts."

The Medical Society of the State of California, through the medium of its JOURNAL, has been the pioneer among the medical journals of the world in taking up the fight against the prescribing of nostrums, and we are proud of the fact that its most efficient editor, Dr. Philip Mills Jones, was the first medical editor who raised his voice and wielded his pen in the fight against the use of these nostrums. Following is a list of eighty nostrums, many of which were first introduced to the medical profession, and then popularized by the ever-ready gullibility of our medical practitioners, who, in their endeavor to keep up with the pressing needs of their profession, make the mistake of accepting every new and untried remedy as being of as great value as the manufacturer wishes him to believe, and rather than study up his neglected materia medica, and of making a more scientific use of some of the old, tried drugs and their combinations, *thinks* he finds something of real value. Some of these are advertised direct to the public, many times accompanied by letters of endorsement from so-called reputable physicians, though most of them are still advertised only in so-called "medical" journals:

Ammonol	Gray's Tonic
Anasarcin	Gonosan
Antiphlogistine	Glycozone
Antikamnia	Germiletum
Antidolar	
Aletris Cordial	Hematone
Arsenauro	Helenium
Ayer's Cherry Pectoral	Hydrozone
	Hydroleine
	Hagee's Cod Liver Oil
Bioplasm	
Bovinine	
Bromidia	Iodia
Cactina	
Celerina	Katharmon
Chionia	Keeley Cure
Colden's Liquid Beef	
Cortexalin	Labordine
	Lymph-orchitis Fluid
Dioviurnia	
Echitone	Melachol
Ecthol	Manacea
Ergoapiol	Manacaline
Expectrozone	Mandragorine
Ferridine	Neurilla
Fitchmul	Nutrolactis
Fig Syrup	Neurosine
	Noitol

Oppenheimer	Sanmetto
Papayans Bell	Sal Vitae
Papine	Satyrin
Pinus Canadensis	Scott's Emulsion
Pepto-Mangan	Sal Hepatica
Pasavena	Saluable Iron
Peacock's Bromides	Triacol
Passiflora	Tongaline
Phenol Sodique	
Resinol	Uric-Antagon
Respirazone	Uriseptin
Sulpho-Lythin	Vapo-Cresoline
Santozea	Viburnum Comp.
Soapina	
Sal-Codeia	Wheeler's Tissue Phos-
Syrupus Roborans	phates.

This list is being added to each day through the means of our medical press. Who are among you read the articles published in the *Journal of the American Medical Association*, which bear directly upon the composition of many of these nostrums? In these articles upon the new and nonofficial remedies published by the Council on Pharmacy and Chemistry of the American Medical Association, will be found much information that may be of value in determining your attitude in the use of many useful remedies as well as others which are of doubtful utility. What are the members of the medical profession doing to stop the sale of these nostrums? Let us see: In a canvass of several prescription pharmacies in Los Angeles and Pasadena, it was found that, taking in most instances 500 to 1,000 prescriptions as they were found in the files, that from 40% to 50% of the prescriptions as written by the reputable members of the medical profession were for some of these various nostrums, not a few of which are advertised direct to the public. One of the leading prescription pharmacists of Los Angeles carefully went over 500 prescriptions of two years ago and 500 of this year's, and the results were as follows:

U. S. Pharmacopeal preparations.....	47%
National Formulary	10%
Nostrums, such as Peacock's Bromides, etc.	25%
Patented chemicals	16%
Ordinary "patent" medicines	2%

In the 47% U. S. Pharmacopeal preparations were included all tinctures and fluid extracts as prescribed in our prescriptions. When these figures are analyzed it will be seen that the "patent" medicines and ordinary preparations will, if added to the nostrums, bring the percentage to 43%. These figures were carefully compiled and it shows that the use and abuse of these nostrums are fostered by the physicians themselves. In doing so, the physician not only loses his self-respect, but the respect of his patient, who, when he finds that an ordinary trade-marked "proprietary" preparation, or nostrum,

has been used, will not see the necessity of consulting the physician again, and perchance will buy a full bottle of said preparation, and not only use it himself, but recommend it to some friend or friends; or, if he is a wise man, will consult another physician, one whom he feels does not find it necessary to prescribe a "patent" medicine. He feels he can do that himself; why consult a physician at all? These things tend to engender a lack of confidence in the medical profession, and as a result, this class of patients are those who form the bulk of the "patent" medicine or nostrum users. After many discouraging efforts at self-mediation, they furnish willing subjects for Christian science, or any "ism," "healer" or "rubber," who may catch their ear. Their experience in the use of nostrums has discouraged them. Why take medication when a few "adjustments" of a misplaced vertebra "which presses on the nerves of the stomach," will cure them?

When the medical profession can allay its surgical conscience to such a degree that it will prescribe a mixture of a clay, cheap glycerin and synthetic oil of wintergreen (which cost the manufacturer less than 1% of the selling price) and which is far from sterile, as a surgical dressing and all-round cure for all diseases from tetanus to lumbago, and still pose as scientific physicians, it is time for us to look among our ranks for the "weaklings" and weed them out. How can the warfare against the sale of nostrums be carried on successfully as long as we aid and abet the trade "medical" journals in exploiting such nostrums?

The pharmacist bids fair to be a relic of the past, and very soon his only vocation will be a mixer of drinks and a dispenser of nostrums. Far better would it become us, as members of a scientific profession, at least to assure ourselves of the composition of what we prescribe, and why we prescribe it, and not accept the statement of some manufacturing drug firm of questionable veracity. Many of the drug manufacturers publish a medical journal, whose chief aim is to advertise their wares to the credulous members of the medical profession; many of whom satisfy their cravings to see their utterances in print with glowing accounts of the brilliant (?) results they have secured by using some of the products of said manufacturing concern, who either own or subsidize the medical (?) journal—whose only excuse for an existence is to advertise their commercial products.

Is this the age of scientific medicine when we will accept the statements of trade journals and manufacturers of nostrums, and not attempt the verification of such statements? Look about you among any of the allied sciences and see the infinite pains taken to verify even the statements made as to the rapidity of a falling star, or the density of the vapors about the sun; and we accept as scientific facts, statements made on the questionable authority of a trade journal whose very existence depends upon its ability to get some members of the medical profession to exploit the manufacturer's products. This is an age of scientific progress and we must progress

or stand still, and to stand still means scientific decay. We are responsible in a measure for the existing state of affairs; if we will write prescriptions for nostrums whose composition is unknown to us, and for no reason other than a lazy convenience, the art of prescription writing will become a lost art, and we are to blame for it. If we are to have clean therapeutics, the medical profession must take up this subject and remove the stigma which is rapidly being placed upon us by those members of our profession who are prescribing these nostrums. Are we not responsible in a great measure for the growth of the numerous "pathies" and "isms" by a lax and unscientific use of these nostrums?

There should be a law governing the sale of these nostrums, and such legislation can be secured which will be in conformity with the federal pure food law, which is an entering wedge that opens the way to the medical profession for a great campaign against the sale of nostrums. An analysis of most of these "patent" medicines and many of the "proprietarys" on the market, showed them to be mere "sideboard tonics" containing from 20% to 45% of alcohol; the medical profession may well be criticized for the forming of drug and alcohol habits by the promiscuous prescribing of compounds of any of the habit-forming drugs. And, too, often the habitue can trace the origin of his downfall to the use of some of the alcohol-loaded nostrums which he innocently took as a medicine not knowing, at that time, he was starting a course of alcoholism which would mean his ruin. We have it within our power to use our forces as an organized body to combat the evil effects of the use of alcohol and habit-forming drugs, and now that we have a federal pure food law, we have it within our means and the means provided for us, to secure similar State legislation and compel the proper labeling of all proprietary preparations offered for sale. Such legislation should also be of such a character as to remedy some of the grossest crimes perpetrated upon those who are dependent upon the medical profession for protection against impurities and adulterations of food.

Our aim should also be to secure legislation looking to the better control of our greatest source of danger, in comparison to the value of a source of food supply. Reference is made to a better control of dairies and dairy products.

Milk is undoubtedly the greatest source of danger of all food products, consisting as it does of the most important food which enters our homes; and no other article of food is more susceptible of contamination than milk. Forming the basis of the food supply of infants and child life, it is responsible for the high infant mortality, which has been shown is higher in proportion to the gross mortality in larger cities, in localities where the product of dairies is not under control of the authorities, or where medical inspection of dairies does not exist. You are to be congratulated that through the efforts of this society, which has been working along the lines of regulation of dairies and dairy

products, we have a pure food commission appointed by the society, which is making efforts to secure State legislation that will operate in connection with the federal pure food laws, and its most imperative duties will be to secure through the aid of the State Medical Society, a State pure-food commission, composed of members from each County Medical Society, each said County Society to secure ordinances in the cities within its jurisdiction, covering the sale of all dairy products.

We must secure legislation compelling the tubercular testing of all dairy herds within the State, this to be under the direct control of the State Board of Health. Such legislation should provide for the destruction of all infected cattle and a just compensation to the owner.

The Pasadena branch of this Society took up this work some three years ago, and at present has ordinances which compel all dairies to have a license. The fees from this license pay for the employment of a dairy inspector and the tubercular testing of all cows in such dairies. The Los Angeles County Medical Association is now prepared to enlarge upon this work, and within a short time it should take up the work of certification of milk by a commission appointed from our members, and we feel assured from the work done so far that within a short time we will have a State pure-food commission appointed by the State Medical Society, covering each county in the State, which commission will provide for:

1. Inspection of all dairies.
2. Tubercular testing of all cows used for dairy purposes.
3. Certification of milk by the local commission of each County Society.
4. The regulation of irrigation of all fruit and vegetable gardens, thereby preventing the irrigation of such by sewage.
5. The regulation of the sale of fruits and vegetables.
6. The regulation of the manner of handling the same and their exposure for sale.

It should secure legislation which would make it a misdemeanor, punishable by fine, to sell products of any dairies, unless it be a licensed dairy with tubercular-tested milk cows.

It should be a punishable offense to expose for sale any fruits or vegetables which are eaten in a raw state, unprotected from contamination by dust and flies.

The conditions under which the sale of fruit and vegetables are exposed for sale are appalling in the extreme.

The sale of prepared foods upon the streets of our cities demands immediate control, when the poor consumptive who must make a living, does so by the sale of popcorn and other prepared foods. The necessity of his calling and the exigencies of his case demand that he sell it upon the crowded streets at night to the detriment of his health; the temporary suspension of his business while he coughs a spray of active tubercular bacilli over his wares, seems not to act as a hindrance to the eager

purchasers, whose only regret seems to be that the action of coughing a few more or less additional germs upon his expected purchasers, has resulted in nothing of a more serious nature than to miss a car.

It is, indeed, a travesty upon the value of our efforts to educate the public along these lines when such conditions exist under our eyes every day and we voice but a feeble protest, and that many times not beyond the confines of our own homes.

These are but a few of the evils which the medical profession must bend their energies to correct. It should be the duty of the society to secure legislation compelling the notification of all communicable diseases, it should set itself firm in this stand to provide such legislation; and it should not stop at this, it should secure legislation which would make it a misdemeanor to permit the occupancy of any house or room after any person or persons suffering with a communicable disease, unless such room or house was properly disinfected after occupancy by such persons.

In no way can the medical profession educate the public along the lines of public health and sanitary living as by securing the enactment of such legislation, and this can never be accomplished unless it is by the individual efforts of each and every member of the society. It must devolve upon each one of us to talk to those members of our legislative bodies who are known to us, and if not known to us, it must be our duty to acquaint ourselves with the member of the Senate or House who resides in our district, and place the necessity of such legislation before him, and urge his support. With a thorough organization, such as we have, it should be the policy of this society to do work along this line before such members of our legislative bodies are elected, and support those, who, in our judgment, are willing to support measures which are intended for the common good.

This is carrying practices which are considered good and diplomatic in the business world, into our medical organization, and until we follow these lines of accepted theories in our choice of our legislative representatives, we will meet with but poor success in accomplishing much in our efforts to get good medical legislators; and until this is accomplished, we will meet with but poor success in our efforts to elevate the physical standing of our communities. We have an organization which should be used as a power to promote the public good. Let me urge upon you the necessity of a concerted action upon the part of each and every member of this society in securing such legislative action as will best serve our purpose in securing for those entrusted to our care, the protection which we feel it is our duty to provide.

Our State is a particularly fortunate one in many respects, with its natural climatic advantages, its freedom from extremes of climate, and the climate of Southern California in particular appeals to the invalid in search of health. Many enter its borders seeking relief from tuberculosis, and were it not for the rapidity of the destruction of the tubercle

bacilli when expectorated promiscuously, the danger from this source would be even worse than it is. We have many who seek relief who have not the means to successfully combat the disease, and means should be provided for the proper care of these cases. Efforts have been made to secure an appropriation for the erection and maintenance of a State Sanatorium for such cases. The advantages of such an institution are such that we should not delay in our efforts to secure an appropriation for the purpose at once, as it is evident to all that this class of cases is a great source of danger to the population of our State, and means should be provided at once for the purpose of caring for them. Institutions of such character are a means of saving many of the lives annually lost, and a saving to the State of thousands of dollars annually by arresting the progress of the disease, and placing those persons that are now dependent upon the State for maintenance, among the earning classes.

We need the support of every member of this Association to pass such legislation as is necessary to secure such an institution. The value of such an institution as a means of teaching these patients correct habits of living, and education along the lines of prevention of the spread of tuberculosis will be invaluable.

We have a committee on legislation whose duty it is to inform us as best they can, of those measures to which in their judgment it will be best to lend our support. A strong effort will be made to pass certain measures which, in their judgment, it will be imperative for us to combat. This can only be accomplished by the aid of every member of this Association.

The benefits of medical organization must of a necessity rest upon the benefits derived by municipality, State, and government by such organization, and the sooner such organization has a part in the affairs of the nation, the sooner will the medical profession have representatives in the National Cabinet.

HIGH ORDER OF MEDICAL INTELLIGENCE.

It may not be uninteresting to our readers to examine a little critically some of the replies to a few of the questions asked in the recent examination by the State Board. Certainly the amount of information displayed by these candidates in the replies quoted is startlingly small. Is it not food for careful thought when questions relating to any lowering of the standards required by the Board are brought up?

MEDICINE.

What are the immediate indications for treatment of intestinal hemorrhage complicating typhoid fever?

"Passing of blood in the stools. Symptoms of shock. Air hunger weak rapid pulse Patient blanched lips white. Or patient may be in shock. Abdomen rigid."

Give the symptoms of fibrinous pericarditis.

"Irregular heart. Paricardial aria increased Auscultation Paricardial friction sound. Pain over heart aria, fever and constitutional disturbances."

Give the physical signs of lung abscess.

"The physical signs of lung abscess are: 1. Abscess if large would produce increased tactile fremitus. 2. Area of dullness. Percussing. 3. Bronchial breathing. Auscultation Vocal fremitus increased. If abscess opens into bronchi large rals. You would find these after resolution should have occurred. Clinical. Expectoration of pus if abscess opens into bronchi. Cough. Patient not improving. Examination of blood shows leucocytosis. If abscess is large you will find sweats and high fever."

How would you treat a case of diphtheria involving the larynx?

"By intubation."

Discuss the data on which you might base a diagnosis of tuberculosis of the lung.

"General history of patient, age, sex, occupation, environment, general appearance, loss of weight, continued fever, elevation of temperature, night sweats, cough, character of expectoration and finally the microscopic test of sputum to find the tubercle bacillus."

What are the immediate indications for treatment of intestinal hemorrhage complicating typhoid fever?

"Great loss of blood, collapse, great weakness, blanched condition of patient, previous to, during and immediately following the hemorrhage."

Give chemical tests for detection in solutions of the following salts (A) Silver nitrate, (B) Lead acetate, (C) Ammonium chloride, (D) Ferric chloride, (E) Corrosive sublimate.

"I am sorry to say, Doctor, that I have forgotten and can not, at present think of any of the tests called for in this question. It would be necessary for me to look them all up should occasion arise."

Classify and describe abscesses of the liver.

"I fear to tackle this question other than to say that an abscess **may occur** in the liver as well as in any other organ of the body; it may be **malignant or non-malignant, specific or non-specific, tubercular or non-tubercular**. The description would correspond to the description of an abscess any place else. Heat, inflammation, pain, pus, pain on pressure, etc. Breaking down of tissue, development of pus, leucocytes, round cells, etc."

Locate and describe the stomach.

"**An Organ of Digestion**; continuation of the oesophagus (in the intestinal tract); immediately below the **diaphragm**; has an oesophageal and **pyloric opening**; subject to functional and organic disease, etc., etc."

Describe the knee joint.

"The **Knee Joint**; made up at the junction of **Femur, Tibia, Fibula, Patella, Cartilages**, etc., etc. Junction of **upper leg** with **lower leg**, etc., etc."

Describe the sympathetic nerve, naming and locating the principal ganglia.

"This question, Doctor, **breaks my heart**. Please be kind. In a 'general way' I know the '**sympathetic nerve**,' and its **functions**, but to make a 'stab' at its '**ganglia**' would be futile; please look at my number before counting me 'out.' Its **name**, of **course**, means **much**, as to its 'role' in the economy, and I understand its 'general' function. Be easy on this, Doctor."

Give the position and relations of the tricuspid and mitral valves of the heart.

"The tricuspid valve is on the right side of the heart between the right auricle and the right ventricle. The mitral valve is situated on the left side of the heart between the left auricle and the left ventricle."

Describe and locate the appendix vermiformis.

"A small '**quill-like**' attachment of the **intestinal viscera**, at the **lower right side** of the **ascending colon** almost immediately opposite the ileo-coecal valve. Its purpose is in doubt. Seat of **appendicitis**. **Lower, outer** of **ascending colon**."

Describe generally and briefly the lymphatic system.

"The lymphatic system plays a very important role in the human economy, and its purpose is to supply the lymph to the blood. It is very susceptible to surrounding inflammation and is very frequently involved, as, for instance, chancroid on penis; glandular enlargement (sympathetic) inguinal glands; sore on finger might produce axillary glandular enlargement, etc., etc., etc."

Describe the palmar arch.

"The mode of the carpal bones."

Locate and describe the stomach.

The stomach is located in the right hypogastric and epigastric region. It has a pyloric (lower) end, cardiac end. Is convex in the greater curvature and convex in its lesser curvature."

Describe the knee joint.

"The knee joint is made up of the lower end of Femur and upper end of Tibia; is a hinge joint; has a capsular ligament two lateral ligaments."

Describe and name the muscles of the female perineum.

"Perinei levator ani."

Describe the sympathetic nerve, naming and locating the principal ganglia.

"Solar plexus. Sacral plexus. The sympathetic nerves are distributed over the body along the course of lymphatics; their function is not known."

Same question as above.

"The sympathetic nerve have ganglia in the womb, in the generative organs, in the mesentery and ganglionic attachment of the lumbar spinal nerves as well as sacral plexus. The vomiting of pregnancy and pneumogastric ganglia I believe the principal one."

Describe the causative agent and the production of the lesions of scabies.

"Scabies is due to microbe. The bacteria is found in the lesion. It is skin disease transmitted by direct contact and by filth. The microbe or bacteria of Scabies is a short rod-like germ and enters the skin through a break in the skin. It grows and causes ulceration which scab over and extends one to the other."

Describe generally and briefly the lymphatic system.

"The Lymphatic follows the course of the arteries and veins, consisting of glands (Lymph) connected by channels; the longest ducts are the Thoracic and Rectoculi Chyli."

Describe the causative agent and the production of the lesions of scabies.

"A small parasite commonly called louse, found around the Pubis, and scalp. The parasites bore into the skin under epidermis, causing characteristic appearance or lesion."

Same question as above.

"Scabies is caused by an animal parasite. The lesion is found between the fingers."

Classify and describe the cysts of the kidney.

"The cysts of the kidney are cysts may be of Syphilitic or tubercular origin, and may be single or multiple."

Same question as above.

"In its character of the contents: Hydro-cyst, Haemato-cyst, Mucous-cyst. (Haemato-cyst occurs pretty often by traumatism)"

"In its formation: Mono (having one cell-room) cyst, Poly (having two or more cell-rooms)."

"Cysts of kidney does not come very often, but when it comes to one kidney, another kidney will act actively as for two."

Describe the causative agent and the production of the lesions of scabies.

"Scabies, the itch, caused locally by its own peculiar bacteria. Constitutional symptoms of the disease with local skin manifestations may be transmitted by heredity. Attack those most commonly of dirty habits of living. Eruption is dry scaly and has terrible constant itching. Between fingers on hands, between toes or may be any place on body. Contagious. Eruption may be slight or very severe in given cases."

Briefly describe the Widal reaction, state its diagnostic significance.

"The Widal reaction is used in making diagnoses of typhoid fever. If a person has typhoid fever and a portion of their excretions be submitted to the blood serum of another who has had typhoid it causes a clubbing of the bacteris."

Write a prescription for the administration through the mouth of chlorine gas dissolved in water.

"Cl. + H₂O—."

Mention the sources and uses of benzine.

"Source of Benzine is Petroleum. Uses—in painting and whenever coal gas preparations are used."

What is the cause of lactic acid in the stomach and how can it be separated from hydrochloric acid?

"The cause of Lactic Acid in the stomach is the presence of a ferment caused by the peurilulin glancum."

Briefly describe the Widal reaction, state its diagnostic significance.

"The 'Widal Reaction' is, I think, a definite laboratory test used in the establishment of a diagnosis (position) is suspected typhoid fever. Its diagnostic significance is, I think, final and conclusive."

What is understood by the terms, tricho-bacteria, leptothrix, sarcina?

"Question No. 10 it is better for me not to attempt—I am sorry to say, Doctor, that I don't know—Please be charitable."

What are the signs, clinical and laboratory, of a well established chronic interstitial nephritis?

"Clinical signs—pain, increased secretion of urine or (may be) no pain especially, dropsical, nervous headaches, wasting, loss of weight, insomnia, etc., etc., and the laboratory test of urine shows the presence of albumen."

Name the physical signs and clinical symptoms which would lead to the suspicion of lung abscess coming on as a sequel of pneumonia.

"Localized pain at some particular part of the lung, dullness area, great tenderness pain, expectoration showing evidence of pus, auscultation would give abnormal sounds, etc., etc."

Mention the sources and uses of benzine.

"Benzine is made from the distillation of wood, is a Biprodukt in the manufacture of charcoal, passes very explosive properties. It is used internally in combination with other substances. Benzoate of Loduim in cystitis. About the best think I have found it good for is cleaning and removing grease spots from clothing."

Describe the theory of the construction of the metric system.

"The Metric System is not used as much now as in the past and is not as a ——— Cannot explain."

What is the cause of lactic acid in the stomach, and how can it be separated from hydrochloric acid?

"Lactic in the stomach is always present in Carcinoma of the stomach. It is caused by the putrefactive action of the decomposed tissues in connection with the HCL."

State method of sterilizing the following: Fluid culture media, test tubes, rubber stoppers, rubber gloves.

"(a) Fluid culture media are best sterilized at a low temperature about 40 per cent. (b) test tubes are best sterilized by autoclave (c) rubber stoppers and rubber gloves are best sterilized in a 1-1000 bichloride sol."

Define the following terms: Germicide, antiseptic, aseptic, sterile, disinfectant.

"A germicide is a drug that destroys the life of the Bacteria an antiseptic is a remedy which antagonizes the bacterial poisons. Aseptic is a condition in which the further invasion of the bacterial toxics is stopped. A Steril condition is one in which all bacteria have been destroyed or removed. To disinfect is to place drugs in powder or solution so that the growth of bacteria is prevented."

By what physical signs do you recognize hydro-pneumothorax?

"Inspection: Mobility decreased on that side may bulge. Patient lays on that side to help mobilize percussion: shows area of dullness which changes when position of patient of changed always having a horizontal margin. Auscultation: may reveal nothing but alteration in breath sound combined with percussion a dullness is manifested: which become vesonous above upper surface of fluid: and this changes when position of patient is changed. pain is felt in that side."

What are the immediate indications for treatment in intestinal hemorrhage complicating typhoid fever?

"There is drop in temperature accompanied by shock this is a matter that should be given immediate attention: Water bags, hot blankets, stimulate best by black coffee per rectum; and strychnin combined with atrophine. Arrest of hemorrhage: for fear of sanguination and if hemorrhage is accompanied with perforation."

SAN FRANCISCO COUNTY MEDICAL SOCIETY, MEETING OF DECEMBER 11, 1906.

(Dr. Wm. F. Cheney read a paper on Sarcoma in Infancy.)

Dr. Porter, discussing paper read by Dr. Cheney: I think we should all thank Dr. Cheney for his lucid

exposition of this case. I have seen one such case, but that was a number of years ago, and different from Dr. Cheney's, being sarcoma of the left kidney, upon which side the disease is more usual than on the right.

From the pathological report of Dr. Cheney's tumor, if I understand it correctly, the growth was not the ordinary sarcoma of the kidney which usually springs from the Wolfian body near the hilum of the kidney, carrying the kidney with it, spreading out on the surface of the tumor.

Of interest in this connection is a case I saw by the courtesy of Dr. Archibald, of Toronto, during the past summer. It was sarcoma of the prostate in a child of 22 months and was not discovered until operation was attempted to relieve urinary retention. Postmortem histological examination proved the growth to be a sarcoma. When one reflects that the Mullerian duct is part of the Wolfian body and that in the post-embryonic stage the former becomes the prostatic sinus, it will be seen that this sarcoma invading the prostate was in reality a sarcoma originating in the same tissues from which spring these sarcomata of the kidney. In the matter of diagnosis Dr. Cheney had a little easier time of it than some do. In looking over a number of histories I find there is often difficulty in differentiating early sarcomata of the kidney from congenital cystic tumors.

Dr. Kreutzmann: About ten years ago I demonstrated a similar case to the Academy of Medicine in three different stages. The first stage was demonstration of the tumor, sarcoma of the kidney from a child about three years old. The second stage demonstrated the child recovered from the operation, and the third stage demonstrated different organs with the same kind of a tumor that had originated in the kidney. Of especial interest was the metastasis in the lungs. The child was first seen in good health. The tumor was accidentally discovered and I had no difficulty in diagnosing it. Operation was advised immediately. The people did not want an operation at first, but finally came back and the tumor was quite a bit larger. The operation was easily performed. In a short time metastases occurred. Some time after I saw statistics of cases of sarcoma of the kidney in children; not more than one dozen cases, showing that this disease is extremely rare. More than ten years ago I reported this case. I have not seen any cases since, and had never seen any before.

Dr. Rixford: As several of those present have reported cases observed by them, I would like to add that I can remember to have seen at least two cases of sarcoma of the kidney in children, one with Dr. Max Magnus, of this city, and one in the service of Dr. Seibert in New York. Magnus' case was that of a girl of two years, presenting an enormous tumor which originated in the left renal region, but which, when I saw it, completely filled the abdomen and raised the lower ribs. The skin over the abdomen was covered with dilated veins and the child was greatly emaciated. The tumor was solid; aspiration brought no fluid. When the tumor was first discovered the diagnosis was obscured by a history of malaria suggesting the spleen as its origin, but later the diagnosis was evident enough and was finally confirmed at autopsy.

Dr. Krotoszyner: I have seen two similar cases, although neither diagnosis could be verified. One case was that of a boy of three with a marked tumor of the left side which I diagnosed as a renal tumor, most probably a sarcoma. The other was a case of a little girl of 5 years, who, at that time, had been in the hands of a number of physicians, and who presented a mass in the right side extending from the ribs down to the crest of the pelvis. It was movable with respiration. In neither of these cases was operation accepted. In one case I understood operation

was attempted, but the tumor could not be removed. In both instances the children died. With regard to the frequency of kidney tumor in children, I wish to mention that in looking over the literature on this subject I found that Kuester, of Marburg, has collected 651 kidney-tumors, of which 141 belong to children from 1 to 5 years and 41 to children from 5 to 10 years. I mention the fact because it shows the large percentage of these tumors in children. It is also stated by the same author that next to children the largest number of malignant kidney tumors occur at the age of between 65 and 75 years. In regard to the diagnosis, it must be stated that as much as modern urology has done to clear up dark kidney-conditions in grown people, very little can be learned from our methods for these small children.

Dr. Moffitt: I have seen two of these tumors. One patient was operated upon by Dr. Tait, who removed the tumor, and, just as in Dr. Cheney's case, the child recovered perfectly and in a short while came back with a tumor as large as at the start. In the other case no operation was done. A short time ago a question of one of these tumors came up in considering a large abdominal mass in a child of 7 months of age. The tumor had been noticed months before. It was accompanied by fever, but absolutely no pain. This mass lay deep in the left flank and at first seemed definitely to be kidney. This idea was strengthened by finding the colon on inflation apparently running diagonally over the tumor. This view had to be revised by finding the colon on palpation, distinctly in the flank. In children we may get inflation not only of the colon, but sometimes of the ilium as well. In adult tumors of the kidney, I have seen two or three cases in which the colon lay internal to the mass felt and accordingly pointed to a tumor of the spleen. At operation it was shown that this position of the colon was due to adhesions of the colon to the tumor, pushing it over to the side. In the case of the small girl of 7 months, the mass which was in the left flank was too irregular and lay too far to the front to be kidney. Whether it could not be a mass of tubercular glands or lymphosarcoma of the small intestine, was a question, although the mass lay entirely in the left flank, a finding against glands. Autopsy showed the tumor a mass of tubercular glands. The mesenteric glands were not involved. In this child there was a history of hematuria. I would emphasize that blood may occur in the urine, in abdominal tumors, without the tumor being connected with the kidney at all; not only blood in microscopic amounts, which is frequent, but also in distinct macroscopic amounts. Again, with regard to the position of the colon, I think that considerable emphasis should be given to the fact that it does not always lie across the kidney tumor. I well remember a case of an old man of 60 who was supposed to have a lymphatic leukemia. The white blood count was 100,000, 80 to 90% lymphocytes. The tumor in the left flank was regarded as spleen. From the position of the tumor, although there was a sharp anterior margin, I made a diagnosis of a kidney sarcoma, associated with a blood picture of lymphatic leukemia. It is well known that certain sarcoma may give a blood picture of lymphatic leukemia. Unfortunately this man had a gangrenous zoster in the distribution of the right 5th nerve. Blood count went down to normal. The tumor shrank and almost disappeared. This, together with the dubious position of the colon, led me to revise my diagnosis, a dangerous thing to do, by the way. He went to autopsy with a diagnosis of lymphatic leukemia with blood picture changed by gangrenous zoster. Autopsy showed a Grawitz of the left kidney. The colon had been pushed into such a position as to mislead the diagnosis.

Dr. Stillman: I have seen but one case of sarcoma of the kidney in my practice. This case was not confirmed by operation; it was too far gone.

No doctor had seen the child until a few days before I saw it. I saw the case with Dr. Greene. That child had the tumor on the right side, occupying the whole of the right side of the body and the picture was just such a one as is seen in text-books of far advanced tumors of the kidney. The child was about one year of age and was emaciated to the last degree. The abdomen had enormously distended veins all over it. Operation was not advised on account of the hopelessness, and the child died within a few days. Autopsy was denied. The interesting fact is that the hematuria should have appeared so late.

Dr. Cooper: I desire to emphasize some of the points alluded to by Dr. Moffitt. Firstly: We must recognize that tumors of the kidney may present a varying relationship to the colon, depending upon what part of the kidney the tumor arises from. Thus a tumor from the pelvis may displace the colon outward and a tumor growing from the outer aspect may displace it outward, and perhaps more important, a tumor arising from the adrenal body or upper part of the kidney, may grow forwards and displace the colon downwards. This is alluded to by Morris in his excellent book, and in Leakes' text-book such an example is figured.

Secondly: All malignant tumors may be associated with a marked leukocytosis. This seems to be particularly so when the tumor arises in the kidney. Thus Cabot records instances of malignant tumor of the kidney in which the leukocytes numbered 90,000.

Thirdly: That though it is impossible, in children, to do the functional diagnostic kidney work, that is a "sine qua non" in adults, we can console ourselves with the reflection that these children have not lived sufficiently long to have degenerative lesions in the other kidney, and hence the kidney left can do its own work and also the work of the one to be removed.

Fourthly: That though it is true that microscopic bleeding may occur, together with the presence of an abdominal tumor, which is not of renal origin, yet we must bear in mind that, given hematuria and an abdominal tumor, the two should be usually correlated and the correlation spells a renal tumor; of this I have seen a striking instance during the last month in which a tumor arising from a left floating kidney and partly interpelvic was diagnosed successfully, owing to the presence of such otherwise unaccountable hematuria.

Dr. Somers: From a surgical standpoint, in the treatment of the case presented by Dr. Cheney, the only problem presenting itself was as to the nature of the incision. The tumor was of very large size and though distinctly located on the right side, practically filled the abdominal cavity. It extended from the pubic region nearly to the liver. Quite evidently incision in the lumbar region would present some difficulties in removal of so large a tumor. Without hesitation, a medium incision was made and the incision lengthened to the pubis. There was no difficulty experienced in removal. The surface of the sarcoma was covered with peritoneum and the colon was distinctly pushed to the left side, quite beyond the median line. In shelling out the tumor the peritoneum was separated without any trouble and did not seem to be attached firmly to the underlying structures. However, when we cut down to the base or pedicle of the tumor it did present some difficulties and we could not be certain that the whole was removed owing to the proximity of the pedicle to the larger blood vessels. As regards operating for such a condition as sarcoma of the kidney, the rapid recovery and great relief obtained in this case fully justify the procedure. Though the operation may not cure, it at least prolongs life and relieves pain.

(Dr. Emil Schmoll then read a paper on Paroxysmal Tachycardia.)

Dr. Moffitt, discussing paper read by Dr. Schmoll: Dr. Schmoll writes that in most cases this condition is to be regarded as a symptom and not as a disease. The idiopathic cases are getting fewer and fewer in number as we search more carefully for underlying causes. We see people who from early years have these attacks. I knew one man who began with this trouble at the age of ten, and I saw him at the age of 70. Then, some people have the trouble a whole lifetime without our being able to discover a cause; but in most cases we can very definitely refer the condition to some underlying factor, as is the case in other so-called functional affections, epilepsy and neurasthenia. I have been struck with the number of cases of paroxysmal tachycardia in young men associated with cerebral syphilis. Not infrequently there are other symptoms than tachycardia; occasionally difficulty in speech, or attacks of confusion. In a few of these cases tachycardia has been a predominant feature. I have been struck, also, with the number of these cases in young men associated with masturbation. The condition is not infrequent in thyroid trouble. The thyroid tumor does not seem to be the direct cause, but rather the thyroid intoxication. Of interest to me is the occurrence of tachycardia in a case mentioned by Dr. Schmoll of Dercum's disease, for not long ago I saw a case of Dercum's disease with attacks of tachycardia. I would like to emphasize also that we should not view the prognosis of paroxysmal tachycardia too lightly when associated with definite heart lesion. I saw, some two months ago, a woman who had had spells of tachycardia during the last five years and who had been for ten days running a pulse of 160 when I saw her. She had a definite aortic leak and died a day or two later with symptoms of angina. Another case was of adherent pericardium, and the patient went a long time with symptoms of intermittent tachycardia alone. The prognosis in such cases is decidedly different from that in essential tachycardia. This condition, therefore, is most often a symptom and not a disease and it is important that our prognosis should be based entirely on the underlying condition.

Dr. Cooper: Dr. Schmoll is to be congratulated upon the wealth of clinical material he has presented to us, and upon the good use he has made of it. There is no doubt that we have to broaden our ideas in respect to what cases we shall regard as paroxysmal tachycardia. We can no longer restrict the list to those instances in which, in the absence of static disease of the heart, such undue rapidity suddenly commences and as suddenly disappears. Yet, on the other hand, there is a question as to where the boundary line is to be drawn, e. g., given a man with a myocardial insufficiency, he overdoes it and his heart beats 120-130 a minute, he apparently suffering from no symptoms. Should we include such in our list? If so we all meet with a considerable number of such cases.

The nervous system undoubtedly plays a great part in the production of many attacks, and indeed, as stated, it has long been formulated that they are a sort of cardiac epileptic seizure. It used to be argued that a pulse rate up to 120 beats depended upon irritation of the sympathetic; from 120 to 150 beats upon a paralysis of the vagus, more than that upon a combination of both causes, but such a distinction is arbitrary and can not be entirely supported. Nevertheless, in those instances in which such attacks occur in people who suffer from manifold vaso-motor symptoms such as cold hands and feet, flushings, sweatings, etc., we are all tempted to suspect that these tachycardias are dependent upon vagal inhibition or sympathetic irritation and in such people the prognosis is commonly a good one. There are other cases, however, in which these attacks are associated with a dilatation of the heart chambers, and indeed one prominent writer—I refer

to Martin—suggests that these attacks are dependent upon a preliminary dilation and represent an endeavor on the part of the heart to make up by rapidity of contraction for insufficiency of the individual beat; this in its turn tends to induce more dilation and thus a vicious circle develops. In such patients the prognosis is somewhat different, and they should be treated with the greatest of care. I cannot criticize the tracings of Dr. Schmoll as it is necessary to have such under one's observation and do many minute measurements before any opinion advanced is of much value. But I would like to emphasize two points, (1) that the interpretation of such things is by no means easy, and one can readily be led astray, e. g., it is only necessary to take venous tracings with the tambour close or far away from the carotid artery to recognize what errors may ensue even depending upon the position of our receiver; (2) that it is particularly difficult to say whether a given wave is due to an auricular contraction occurring coincidentally with the ventricular contraction, or to a reflex wave due to the right ventricular systolic. The size of the wave does not help us; measurements are of little aid. Perhaps we will have to depend upon the fluoroscope; but even there the factors of error arise, inasmuch as a chamber containing fluid in such apposition to another contracting chamber would naturally show some disturbance during that contraction and I must confess, that up to the present I have been totally unable to differentiate.

Dr. Schmoll, closing discussion on his paper: I agree with Dr. Moffitt that it is of the utmost importance to look for the etiological factor in these cases. In very few cases I have not found the etiological factor. In regard to paroxysmal tachycardia in thyroid disease, I have seen a number of such cases in which tachycardia was present and the case could not be classed as real goiter. In regard to the Dercum's disease, that also improves on thyroid extract. I agree that it is difficult to judge whether the auricular contraction takes place or not, from the venous tracings. I think the final decision has to come from the fluoroscope examination, not from the tracings.

PHYSICIANS RELIEF COMMITTEE.

To the Editor of the State Journal:—At a meeting of the Relief Committee of Physicians, held the 19th December, I was instructed to send you a copy of a quotation from an article which appeared in the November edition, 1906, page 621, of the Pacific Medical Journal, and our reply, and to ask if you will kindly favor us by publishing the same in the next edition of your Journal?

San Francisco, December 14th, 1906.
Winslow Anderson, M. D.,
Editor Pacific Medical Journal,
1914 Pacific Avenue.

Dear Doctor:—The attention of the Relief Committee of Physicians has been called to an article in the November edition, page 621 this year, of the Pacific Medical Journal, in which you make the following statement:

"The first item of disbursements to physicians—321—is \$23,512.80, making about \$732.48 for each. We know many physicians that have received only \$50 each from the relief fund. This would make a few that have received much more than \$732 apiece."

As the above statement is extremely erroneous—23,512.80 being divisible by 321—but 73.24 times and not 732.48 times, the Committee respectfully request that correction of same be made and proper notice of such correction be given in next edition of your Journal.

Relative to that portion of your article in which you comment upon the balance of the relief fund

on hand and its distribution, we beg to say that we are, and have been, using every effort to learn what physicians are in need, and such when found are promptly granted assistance.

Should you know of any physicians (duly registered), who are in need we will consider it a favor if you will send their names and addresses at your earliest convenience.

The Committee believes it is serving the highest and best interest of all by refusing to divulge the names of those who have received assistance from the relief fund. Such an act would be of benefit to no one; on the other hand it would be most indiscreet and injudicious on the part of this Committee to humiliate, by publication, those who, through misfortune, have been compelled to accept aid.

As to the question of notes, permit me to state that no physician has been asked to give a note, and that such notes as the Committee has in its possession have been given unsolicited by those receiving aid.

Very truly yours,

FRED W. LUX, Secretary.

May we trouble you further to announce that the Relief Committee of Physicians has a balance on hand and are still in a position to assist all regularly registered physicians who are in need?

Very truly yours,

FRED W. LUX, Secretary.

OUR RELATIVE POSITION.

A facetious writer in the December number of the "Druggists Circular" presents a capital take-off of the manner of conducting the patent medicine business and the write-ups that are an essential part of that form of fraud. He has succeeded in combining Cod Liver Oil, Oxygen, Radium and Phosphorous in one mixture, which has been given the truly descriptive name of Radio-Phospholine, and it may be implicitly relied upon to cure cancer, debility and consumption. The promoter offers to assign shares of stock to persons sending in testimonials to the effect that some friend holding a prominent position in society had been cured of cancer, consumption or nervous debility. The number of shares to be assigned will depend upon the prominence of the individual and his consequent commercial value.

"It is manifestly impossible to fix a definite price for testimonials, but I give the value I attach to those of certain people. The president of the United States, or the king of England, 1000 shares. The governor-general of Canada, or the editor of Collier's Weekly, 500 shares. The editors of the California State Journal of Medicine, the Journal of the American Medical Association, American Medicine, the Canada Lancet, the Ladies' Home Journal, the New Idea, or the Maritime Medical Journal (Canadian), the presidents of Harvard, Yale or Johns Hopkins universities, the four senior members of the faculty of Vassar, or any bishop in good standing, 400 shares. Admirals, major-generals (regular), judges of the supreme court, ambassadors of first-rate powers, and governors, 300 shares.

"Then by easy gradations we get down to aldermen, justices of the peace, ministers of religion, trained nurses, head waiters, Pullman car conductors, returned missionaries, members of congress, and ladies who are prominent in vaudeville for whose testimonials are given from 2 to 10 shares.

"Special terms on authentic testimonials from Dr. Dowie or Mrs. Eddy."

RESIGNED FROM COLLEGE OF PHYSICIANS AND SURGEONS.

Dr. Ernest Pring wishes us to state that he has severed his connection with the College of Physicians and Surgeons, of San Francisco.

PURIFICATION OF SEWAGE.

A valuable contribution to the literature on the disposal and purification of sewage has just been issued by the United States Geological Survey as Water-Supply and Irrigation Paper No. 185, investigations on the purification of Boston sewage, with a history of the sewage-disposal problem; by C. E. A. Winslow and E. B. Phelps. The volume of sewage discharged by modern communities is so large and the character of all kinds of sewage is always so objectionable that the so-called sewage-disposal problem becomes, from the economic as well as the sanitary point of view, one of the most serious with which American cities have to deal. It is of vital importance to every community to secure such a disposal of obnoxious sewage as will avoid the creation of any insanitary focus or foci in the environment, or any infringement of the laws of hygiene and sanitation.

The investigations described in this publication were made at the Sanitary Research Laboratory and Sewage Experiment Station of the Massachusetts Institute of Technology, under the direction of Prof. William T. Sedgwick. The station at which the work was carried on is situated on the line of the main trunk sewer of the South Metropolitan district of Boston at a point where it contains the sewage of about half a million people. At this station pumps were installed and tanks were constructed for tests of the various methods of sewage purification. The results of this work and the practical conclusions that have been drawn are given in Water Supply Paper No. 185, which may be obtained on application to the Director of the United States Geological Survey, Washington, D. C. These results are by no means applicable merely to large cities, but contain lessons of practical value to all communities having to deal with the ever present sewage disposal problem. The description of the experiments is preceded by a careful and elaborate historical review of the whole sewage-disposal problem from its origin in the wide adoption of the water-carriage system up to the present time, when that system has become practically universal. This interesting review can not fail to be of the highest value to expert engineers, sewage commissioners, and cities all over the United States, especially to those numerous small communities that are confronted, perhaps for the first time, with a problem that means so much for the health as well as the finances of the citizens.

COLONIES FOR EPILEPTICS.

To the editor of the State Journal: As you are aware, great advances have been made in recent years in the care and treatment of epileptics. It has been found that their welfare and that of the community is best promoted by providing special institutions for them on the colony or village plan. There are a number of such colonies in Europe and at least fifteen of our own states have made or are making colony provision for indigent and semi-dependent epileptics. By means of colony life the condition of these persons may be improved and their capacity for self-support increased.

There being in California no special provision for epileptics, representative citizens of Los Angeles met on October 29, 1906, to consider the needs of this unfortunate class. At this meeting a committee was appointed to investigate and report upon the condition of epileptics throughout the state as a step toward bettering this condition. This committee is now engaged in gathering data concerning the number of epileptics in this State, both in and out of institutions. All medical practitioners are urged to send to this committee the names or initials of any epileptics whom they may know, together with whatever information may seem to be of value concerning them.

As chairman of this committee, I am writing to you to enlist your cooperation in furthering the matter. If you will be so kind as to give space to this communication I shall be greatly indebted to you.

Yours very truly, ROSS MOORE, M. D.

COUNTY SOCIETIES.

SONOMA COUNTY.

The Sonoma County Medical Society held its first meeting of the year in Dr. S. S. Bogle's office, Santa Rosa, on January 10th. Notwithstanding the inclement weather, a generous number were present. The officers-elect for the ensuing year were installed: President, Dr. J. R. Swisher, of Healdsburg; Vice-President, Dr. J. H. McLeod; Secretary, Dr. R. M. Bonar; Treasurer, Dr. Lizzie Lain, all of Santa Rosa.

The society is in a prosperous condition, and the past year has been replete with interest. A unanimous vote of thanks was accorded Dr. Annabel McG. Stuart, the retiring President, who, notwithstanding the arduous demands of a large practice, did not miss a meeting during her term of service, nor waver in her zeal in the interests of a united profession in Sonoma county.

To Dr. G. W. Mallory, who has been our Secretary since the society was organized, over three years ago, belongs the credit, more than to any other member, for our flourishing condition. He has worked earnestly and faithfully for our welfare and could always be depended upon to be there.

The feature of the evening was a paper by Dr. E. M. Yates, on "Endometritis." After the discussion, in which every member took an active part, the society adjourned.

R. M. BONAR,
Secretary.

ORANGE COUNTY.

The Orange County Medical Society held its regular monthly meeting Tuesday evening, January 8th. State Senator Anderson requested advice in regard to the bill to regulate the practice of "Naturopathy." A Committee on Legislation was appointed and instructed to keep our representatives advised in regard to such legislation. The committee has written them that this bill, if passed, would defeat the objects of all past medical legislation, inasmuch as it would admit all pretenders to practice. Dr. Dobson read a very interesting paper on a greatly neglected subject, "Ocular Manifestations in Cerebral Lesions," showing how this symptom could not be utilized without a thorough knowledge of the anatomy of the brain and the origin of the ocular nerves.

H. S. GORDON,
Secretary.

SHASTA COUNTY.

Shasta County Medical Society met in regular session January 19th at the office of Dr. R. F. Wallace. President C. E. Reed in the chair. There were present Drs. Reed, Wallace, Bauter, White, Lawry, Edgecomb and Weber. Communication was received from Dr. George Worthington asking to be transferred to San Francisco County Medical Society, and Dr. George Watt to Yolo Society. Granted. The communication from Dr. Robert T. Legge inviting the society to have its July meeting at McCloud was accepted.

The Secretary and Treasurer's report for the past year was accepted. Resolution reaffirming vaccination was adopted as follows:

Resolved, That Shasta County Medical Society hereby reaffirms and emphasizes its belief in proper vaccination as a protection against smallpox and that

it is of the decided opinion that inoculation with pure vaccine and with absolute cleanliness and good sanitary surroundings is a harmless and innocent measure.

The following names were selected, from which the special Senatorial Committee of this district could be chosen, viz.: Chas. W. Nutting, Robt. T. Legge, C. E. Reed, R. F. Wallace, Fred Stabel, D. B. Fields, Chas. M. Tinsman and C. J. Teass.

Robt. T. Legge and L. A. Bauter were elected delegates and Drs. Cornish and Edgecomb alternates to the April meeting of the State Society. Officers for the ensuing year were then installed as follows: R. F. Wallace, President; R. E. Stevenson, Vice-President; Phil H. Weber, Secretary and Treasurer.

Dr. C. E. Reed read a very interesting paper on "Erysipelas Migrans," which was followed by a general discussion by all doctors present. The society then adjourned to April 20, 1907.

PHIL H. WEBER,
Secretary.

SOMNOS.

The manufacturers of Somnos have been claiming that their preparation is a definite "chemical product formed by the synthesis of chlorethanal with a polyatomic alcohol radical. Very few, if any, physicians who read this description realized that chlorethanal is another name for chloral and that a polyatomic alcohol radical, in this instance, meant glycerin. In The Journal of the American Medical Association for September 1, 1906, attention is called to the actual facts in regard to this preparation in a comment on the circular letter published by the H. K. Mulford Company. In the literature regarding the physiologic action of Somnos the H. K. Mulford Company claimed that it has no "depressive action on the heart or circulation and has no destructive influence on the red corpuscles of the blood, nor does it cause gastric disturbances by continued use." The literature also repeatedly said that it contained no chloral and that it was free from the bad effects of chloral.

The Council of Pharmacy and Chemistry, in The Journal A. M. A. for September 15, publishes a report of investigations that were made on mice, guinea-pigs and dogs for the purpose of proving or disproving the claims made for Somnos by its manufacturers. The result of the investigation showed that the physiologic action of Somnos is practically indistinguishable from that of a 5 per cent solution of chloral hydrate.

According to the reports, Somnos is no less toxic than chloral hydrate, and the depressing effects on the temperature, respiration and circulation are the same in each instance. The Council suggests that physicians who are in the habit of using Somnos should compare the results they obtain from it with a 5 per cent elixir of hydrate of chloral. In this way they can verify for themselves whether or not the Council's conclusions are correct, that a 5 per cent elixir of chloral glycerate (Somnos) has the same physiological and therapeutical action as a 5 per cent elixir of chloral hydrate.

THE BACTERIA IN SCARLATINAL AND NORMAL THROATS.

From a study of 154 throat cultures, 51 from normal throats, 75 from cases of scarlatina, 14 of measles, 5 of tonsillitis, 5 of pneumonia and 4 of pharyngitis, and fully describing his method and the results of the examination, G. F. Ruediger, Chicago (Journal A. M. A., October 13), sums up his findings in substance as follows: Streptococcus pyogenes is constantly and abundantly found on the tonsils in cases of tonsillitis and scarlatina before the subsidence of the inflammation in the throat.

The organisms rapidly decrease in numbers after subsidence of the throat inflammation. Streptococcus pyogenes can not be considered a normal resident of all healthy throats, though it was found in small numbers in 60 per cent of the cases examined. Pneumococci of low virulence were found in 64 out of 71 throats. A large group of organisms lying between the typical Streptococcus pyogenes and pneumococcus were found in all normal throats and in nearly all diseased throats. They have very little virulence for rabbits, and as they are found in nearly all cases they may be considered as normal inhabitants of the throat. Streptococcus pyogenes from normal throats appears to have a slightly greater virulence than these organisms from scarlatinal throats.

PUBLICATIONS.

A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers and Practitioners of Medicine. By Charles Phillips Emerson, A. B., M. D., Resident Physician, The Johns Hopkins Hospital; Associate in Medicine, The Johns Hopkins University, Philadelphia and London, J. B. Lippincott Company, 1906.

The field of clinical pathology or clinical microscopy has been very fully covered by several excellent text-books in the last few years, and it would seem that further additions to the list were unnecessary. In presenting another book on this subject Dr. Emerson has recognized this fact, and as he states in his preface, has endeavored to cover the field from a new point of view; to present the subject from the clinical rather than the laboratory side. In this, we think, he has succeeded admirably. The work is based on the author's five years' experience as head of the clinical laboratory at the Johns Hopkins Hospital and he has had at his disposal and made good use of all of the valuable clinical records of this institution. In general the laboratory side of the work is presented much as in other works except that the old and poorer, and the new and untried tests are in general omitted, and only the reliable ones retained. In addition, in every chapter is a valuable and generally full discussion of the clinical side of the subject; a discussion that can not fail to be of advantage to students and to which the general practitioner can refer with the assurance of help.

The work opens with the subject of the sputum and the author makes a timely plea for more extended and careful examinations of the fresh sputum, both macroscopically and microscopically than are usually made. The chapter contains a good discussion of colored sputa and of the sputum in the various pulmonary affections. Following this some two hundred pages are devoted to the subject of the urine. This chapter is very satisfactory. It covers the chemical side in much the same manner as other books but contains here and there many useful hints. The newer urine tests such as cryoscopy, chloride excretion, the dilution test, methylene blue and phlorizin tests, etc., are grouped under the head of functional renal diagnosis and are fully discussed especially in their relation to surgical questions. Albuminuria and the urine in the various renal affections are fully considered from the clinical standpoint and must certainly be of great help to the student. We are sorry no mention is made of Denig's test for acetone, for we consider it just as simple and more delicate and satisfactory than the usual Gunning's or Lieben's tests.

The third chapter considers the stomach contents and in its general presentation of the subject and its discussion of the clinical laboratory side of the different gastric affections it is one of the best in

the book. We fail to find any mention of Sablis' desmoid test. Occult blood is preferably to be considered under the subject of faeces and not stomach contents, and should have been given a fuller discussion and the tests more adequately described.

The blood is very fully and satisfactorily presented in the fifth chapter. The details of the technic of obtaining specimens and counting the corpuscles are very carefully described and the usual faults of the beginner prominently mentioned. The anemias and the parasitic blood affections are given due prominence. We are glad to see that Brodie-Russell's instrument for the determination of the coagulation time is recommended; very few text-books mention it. In studying the colored plates that accompany this chapter it would be of assistance if a descriptive text were included with each.

The final chapter discusses the various body fluids not already considered and includes the subject of cytodiagnosis which is adequately presented. Dr. Emerson finds it of rather limited value. The text is well illustrated with original drawings executed by the well-known Johns Hopkins artists, whose reputation is sufficient guarantee of the accuracy of their work. In general we have nothing but praise for the book and we agree with the opinion expressed by Dr. Osler in his introduction, that it will be found a comprehensive and trustworthy guide in all the details of laboratory work. H. W. A.

Practice of Pediatrics—In Original Contributions by American and English Authors. Edited by Walter Lester Carr, of New York.

This book is issued as an addition to Lea Brothers' Practitioner's Library, and is contributed to by a number of pediatricians; American and English, whose names are coming more and more to be recognized as carrying authority. The ideal book of pediatric practice would be one in which the physiological differences between adult and child were fully emphasized, and the pathology and symptomology due to such differences fully brought out; it would also be one in which the visual facts of general medicine to be found in ordinary text books would receive little more than mention and in which plates such as occur in pathologies or books on practice would not cumber the volume. Preferably, too, it would be from the individual point of view by one man and carry the garnered wisdom of much clinical experience, and it would avoid the overlapping that inevitably comes in the attempt by a number of men to write a system of pediatrics.

The book before us violates many of the premises laid down as ideal; and further, the reading of some of its sections leaves an impression that the writing was but an attempt to fulfill an uninteresting task. However, in spite of its drawbacks, which are but those inevitable to a book brought together in such a manner as this has been, there are a number of the sections that every practitioner should read. Southworth, than whom it would have been difficult to find an abler man, has written the section on Infant Feeding. One feels that the editor has hardly allotted sufficient space to this important subject. In a pediatric manual of about a thousand pages, less than one hundred are given to the dietetics of infancy, and while in that small space there is crowded an enormous amount of information luminously treated, one can not but regret that this important and much neglected subject should not have received greater space. It is to be regretted, too, that while Chapin's results are quoted and used as though they were, as they are, the basic facts upon the knowledge of which we depend for success in baby's feeding, Chapin has been given scant credit for his work.

Hart and Van Slyke's epoch-making researches into the chemistry of milk albumens have been fully

recognized and the revised views their discoveries have forced upon us are fully accepted. It is gratifying to see that the simple top-milk method of home modification is advised and that the laboratory modifications are more or less discouraged. Certainly any practitioner following the advice of this section should have no difficulty in feeding normal infants, and he will find the problem of feeding children of abnormal digestion a much less taxing one. Southworth also advises a much more liberal dietary during the second year than many writers do. One feels that those pediatric authorities who so strongly urge the importance of withholding other than milk food during the second year, have wrought incalculable harm to many children.

Occasionally in this book one meets with statements that must be errors of dictation, such as when it is advised in an otherwise admirable article on Marasmus that the child suffering from this condition should have a daily cool douche when undoubtedly the one essential thing is to protect a child whose temperature is already subnormal from further loss of heat.

To judge the value of any book on children's diseases, one naturally turns to the sections on the treatment of acute infections and especially to that on the treatment of diphtheria. So many authorities have put the dosage of antitoxin so low that there is in the minds of the profession at large a feeling that small doses of antitoxin given at intervals are as efficient as large initial doses. This is a vicious statement and it is with a great deal of satisfaction that one reads Nicoll's endorsement of McCollom's advocacy of massive initial doses. The dosage advised by the author is, for mild cases 2,000 to 4,000 units; in severe cases twice that dose; and cases involving the larynx, 10,000 units. As a matter of fact, it is rarely wise to give less than twelve thousand units in a laryngeal case, and this dose should be repeated within 24 hours.

Hardly sufficient stress is laid on the great difficulty of differentiating cases in which the streptococcal invasion of the throat complicates diphtheria from cases of true scarlatina. Certainly, in San Francisco such cases are not at all infrequent and are often puzzling.

There is in the volume under review, one classical section—that on diseases of the heart, by Poynton. If there is any one subject about which we have needed a master's dictum, it is this. In etiology and in clinical development, the cardiac diseases of childhood differ so widely from heart disease in adult life that even with considerable experience the practitioner may be led into errors of prognosis and management that will cause him much bitter regret. The subject of post-diphtheretic cardiac failure receives more thorough discussion than is usually the case. Proper stress is laid upon the great importance of skilled and experienced nursing. The symptomology is discussed very fully. It might, perhaps, have added to the value of the section had the advice to watch the heart in every case of diphtheria been made more imperative and had it been made clear that the character of the first sound almost from the beginning is an index of the waning strength of the myocardium and a warning of the imminent onset of its failure.

There is an extremely useful restraining harness figured, to be used to maintain quiet in the restless child. It is a matter of opinion whether the use of such a means of restraint is wiser than the method of giving sufficient opium to keep the child drowsy. Lee's prescription of atropin and strychnin is advised for these cases of failure; the reviewer has never felt strychnin to be of much use in such an event and he has certainly seen it do great harm by exalting the sensorium and increasing restlessness; but atropin is invaluable when the pulse is slowed.

A point well taken is that the diagnosis of functional disease of the heart in childhood is to be con-

sidered with grave suspicion, and only to be made after the elimination of all the many possible etiological factors, toxic in origin.

Altogether, while the practitioner who purchases this volume need have no doubt as to the accuracy of its information, there is no particular reason, except for Poynton's brilliant article, why it should replace in our libraries the standard works of Rotch, Holt or Ashby and Wright; while for the medical student a smaller book such as this excellent manual by Cotton is more useful. With fascinating style, Cotton has managed to present the main principles of pediatrics in a small space. Especially to be admired is his handling of the section on infant feeding. To any student who spends an attentive hour over this chapter, the subject will cease to be in the least complicated or mysterious, and on graduating, such a student will be able to give much terse and definite instruction to any mother and he will have gained for himself a sane view of the importance of the subject to the practitioner.

In spite of some omissions, such, for instance, as the failure to mention sarcoma of the kidney in childhood, etc., this manual of Cotton may be heartily recommended to the student of medicine. The discussion of the physiological differences between child and adult is so full and lucid that the reader immediately grasps the reasons that pediatric practice is so distinct and special a department of medicine.

L. P.

The Eye and Nervous System; Their Diagnostic Relations. By Various Authors. Edited by Wm. Campbell Posey and William G. Spiller. J. B. Lippincott Company, Philadelphia and London. Cloth, \$6.00.

Neurology and ophthalmology are so intimately connected that the first step, which a neurologist has to take, to arrive at a diagnosis, is a most minute examination of the visual apparatus. On the other hand the ophthalmologist is very often first consulted for a disease affecting the nervous system which manifests itself in ocular symptoms.

Notwithstanding this we have not before had a book covering these two branches of medical science. The present text-book attempts to cover the ground completely and we may say with the greatest success. The different chapters have been written by men who have taken a prominent part in the clearing up of the questions treated. A very excellent book has resulted from the collaboration of these men; the fact that information which formerly had to be collected from several text-books is presented in a very complete and concise manner, will render the book most valuable to the general practitioner as well as to the specialist.

In the introduction we find a chapter on the anatomy of the eye and the connections of the optic nerve with the lower and higher visual centers. The psychology of the visual act has been most excellently exposed in the following chapter by C. K. Mills. Methods for the examination of the eye, the disturbance of the extraocular and intraocular muscles, affections of the fifth, seventh and cervical sympathetic, and the diseases of the retina are treated in the following chapters.

The eye symptoms of nervous affections are discussed by Spiller in connection with an excellent review on tumors of the brain; ocular changes in bulbar and pseudobulbar affections are described by Taylor. Spinal affections and the eye symptoms caused by them are fully reviewed by Weisenburg. Several chapters are devoted to functional disturbances of the eye in neuroses.

A very important part of the book is reserved for the description of neurotic conditions caused by errors of refraction and unbalance of the extraocular muscles and their treatment. The last chapters are devoted to the surgical treatment of intracranial

pressure; tremors, reflexes, gait and degeneracy are discussed in the last chapters.

The book gives exhaustive information on all points which may come up in general as well as in special practice. In a following edition which we are sure will soon be necessary, the value of the book may be increased by treating the relations of systematic disease to eye changes. (Nephritis, diabetes, pernicious anemia, syphilis, etc.)

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REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

We reprint herewith from The Journal of the American Medical Association, for September 15, the first installment of the report of the Council on Pharmacy and Chemistry. Additional installments will appear from time to time. The importance of these reports is too evident to need comment. For the first time in the history of the organized profession, a scientific commission, whose ability and probity is above suspicion, has reported on preparations regarding which heretofore we have had only the report of those interested, financially and otherwise, in their exploitation.

ACETOZONE.

A mixture of equal parts of benzoylactyl peroxide and an inert absorbent powder.

Actions and Uses.—Benzoylactyl peroxide belongs to a class of compounds known as the organic peroxides in which an excess of oxygen has been combined in such a way that it is somewhat slowly given off in a nascent condition. On contact with water it hydrolyzes, forming benzo-peracid and aceto-peracid which exert marked oxidizing and germicidal action. In consequence of this change, these compounds are thought to be particularly adapted for internal administration. The germicidal and antiseptic properties of this substance have been attested by the experimental results of several observers. It has been used in ophthalmic, aural and nasal practice with asserted good effects as an antiseptic. It has also been applied internally, especially in typhoid fever, with a view to the disinfection of the intestinal canal, and appears to be an intestinal antiseptic. **Dosage.**—Acetozone is generally employed in aqueous solution prepared as follows: Add acetozone to warm water in the proportion of 1 Gm. to 1000 Cc. (15 grains to the quart), shake vigorously for five minutes, and allow to stand for about two hours. Decant the liquor as required. This solution may be drunk ad libitum, two quarts or more being taken by an adult in twenty-four hours. Acetozone is also used in oily solution as an inhalant. Manufactured by Parke, Davis & Co., Detroit, Mich.

ACETOZONE INHALANT.

A solution of benzoylactyl peroxide in liquid petrolatum. Formula: One hundred grammes contain: Benzoylactyl peroxide, 1.0 Gm.; chloretone (chlorbutanol), 0.5 Gm.; Refined liquid petrolatum, 98.5 Gm.

Dosage.—It is to be inhaled in the form of a very fine spray, or nebula, best produced by an atomizer especially designed for oily liquids. Prepared by Parke, Davis & Co., Detroit, Mich.

ACET-THEOCINSODIUM.

Acet-theocinsodium, $C_7H_7N_4O_2Na + CH_3COONa$, a double salt of sodium acetate and 1.3 dimethylxanthine-sodium (theophyllinsodium).

Actions and Uses.—It has the diuretic properties of theocin, reinforced by the diuretic action of sodium acetate, and, being more soluble, it has been claimed to be more readily absorbed and better tolerated than theophylline. It is recommended in cardiac affections, nephritis, dropsy, etc. **Dosage.**—0.2 to 0.35 Gm. (3 to 5 grains), best given after meals. Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color and Chemical Co., New York).

ADNEPHRIN EMOLLIENT.

Recommended as a local application where prolonged use is required. Prepared by F. Stearns & Co., Detroit, Mich.

ADNEPHRIN OIL SPRAY.

The preparation is applied as a spray to the mucous membranes in congestive and inflammatory affections, preferably after washing with Dobell's solution. Prepared by F. Stearns & Co., Detroit, Mich.

ADNEPHRIN SOLUTION.

A sterile solution 1-1000 of the suprarenal active principle in physiologic salt solution containing one-half of one per cent of methaform (chlorbutanol).

Actions and Uses.—The actions and uses of this preparation are described under Suprarenal Alkaloid. **Dosage.**—The dose internally is from 0.2 to 2.0 Cc. (3 to 30 minims) in water. Adnephrin is also used in oily solution as a spray, see Adnephrin Oil Spray, and in the form of ointment, see Adnephrin Emollient. Prepared by F. Stearns & Co., Detroit, Mich.

ADRENALIN.

The active alkaloid of suprarenal gland, prepared by the method of Takamine, see Suprarenal Alkaloid.

Dosage.—Locally, 1-1000 to 1-15000 solution, as the chloride. Internally, 0.3 to 2 Cc. (5 to 30 mm.) of 1-1000 solution. Hypodermically, 1 to 15 drops of 1-1000 solution, diluted with sterile water. Manufactured by Parke, Davis & Co., Detroit, Mich.

ADRENALIN CHLORIDE SOLUTION.

Dosage.—See adrenalin. Prepared by Parke, Davis & Co., Detroit, Mich.

ADRENALIN SUPPOSITORIES.

1 part of adrenalin to 1000 parts of oil of thebroma (cocoa butter). Each suppository weighs about 1 Gm. (15 grains). Prepared by Parke, Davis & Co., Detroit, Mich.

AGURIN.

Agurin, $C_7H_7N_4O_2Na + NaC_2H_3O_2$, a double salt of sodium acetate and theobromine-sodium.

Actions and Uses.—It acts like theobromine, over which it has the advantage of great solubility and that it is well tolerated by the stomach. While inferior in diuretic power to theophyllin (which see), it is said to have greater power in sustaining the diuresis produced. **Dosage.**—0.5 to 1 Gm. (7 to 15 grains), preferably in wafers or capsules. If in solution, this should be freshly prepared (with peppermint water) and without sugar or mucilage. Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

AIROL.

Airol, $C_6H_2(OH)_3(COOBi(OH)) = C_7H_6O_6IBi$, a combination of bismuth oxyiodide (subiodile) and gallic acid.

Actions and Uses.—As it liberates iodine in the nascent state in the presence of wound secretions it has been recommended as a desirable and efficient substitute for iodoform in the treatment of wounds, burns, skin diseases, gonorrhea, etc. **Dosage.**—It is used externally in the pure state or diluted with talc, or in the form of a 10 per cent, suspension in equal parts of glycerin and water, or as a 10 to 20 per cent ointment with 2 parts of petrolatum and 7 parts of wool fat. Manufactured by F. Hoffman-La Roche & Cie., Basle, Switzerland (The Hoffman-La Roche Chemical Works, New York).

ALPHA-EUCAINE HYDROCHLORIDE.

Alpha-eucaine hydrochloride is the hydrochloride of benzoyl-methyl-oxypiperidine-carbonic methyl ester.

Actions and Uses.—The action of alpha-eucaine is similar to that of cocaine, but it is regarded as three and three-fourths times less toxic than cocaine. In large doses it first stimulates and then paralyzes the central nervous system; it slows the heart and produces a fall of blood pressure. Locally it acts like cocaine as an anesthetic, but dilates the blood vessels instead of contracting them. It does not dilate the pupil. It is more irritating to the mucous membrane than cocaine or than beta-eucaine. It has a moderate bactericidal action. It is used as a substitute for cocaine in general and minor surgery, but beta-eucaine is preferred for applications to the eye. **Dosage.**—2 to 5 or even 9 per cent solutions. Not more than 2 Cc. (30 minims) of a 4 per cent solution should be used at one time. Manufactured by Chemische Fab-

rik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

ALPHOZONE.

Alphozone, $(\text{COOH} \cdot \text{CH}_2\text{CH}_3\text{CO})_2\text{O}_2 = \text{C}_8\text{H}_{10}\text{O}_8$, an organic peroxide resulting from the action of hydrogen dioxide on succinic anhydride.

Actions and Uses.—Alphozone belongs to the class of organic peroxides, and by its powerful oxidizing power becomes a germicide and antiseptic. Dosage.—Alphozone is also marketed in the form of tablets containing, each 0.065 Gm. (one grain), of alphozone, which are used for making solutions, one tablet to 60 Cc. (2 fluid ounces) of water giving a solution (1 to 1000) suitable for general external use; but, as a nasal douche, one tablet in 180 Cc. (6 fluid ounces) of water is often preferred. Manufactured by F. Stearns & Co., Detroit, Mich.

ALUMNOL.

The aluminum salt of β -naphtholdisulphonic acid, $\text{Al}_2(\text{C}_{10}\text{H}_5\text{OH}(\text{SO}_3)_2)_3 = \text{Al}_2\text{C}_{30}\text{H}_{18}\text{O}_{21}\text{S}_6$.

Actions and Uses.—It is an astringent and mild antiseptic. It is claimed that it can be used as a mild astringent, an irritant or a caustic, according to the strength of the solution, and it is asserted that it exerts a peculiarly destructive action on gonococci. It has been recommended for a variety of affections in which a caustic, astringent or antiseptic is indicated. It has been particularly recommended for gonorrhea in females, especially when affecting the endometrium. Dosage.—As a surgical antiseptic, in 0.5 to 3 per cent solutions; in gynecology, in 2 to 5 per cent solutions; in otology and laryngology, either as powder or in $\frac{1}{4}$ to 1 per cent solution as douches, washes or gargles; as cautery, in 10 to 20 per cent solution. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

AMINOFORM.

A name applied to Hexamethylenamina, U. S. P. Sold by C. Bischoff & Co., New York.

ANESTHESIN.

Anesthesin, $\text{C}_6\text{H}_4(\text{NH}_2)(\text{COOC}_2\text{H}_5)$ 1:4 = $\text{C}_9\text{H}_{11}\text{O}_2\text{N}$ the ethyl ester of paramidobenzoic acid, obtained by the reduction of paranitrobenzoic acid.

Actions and Uses.—It was introduced as a substitute for cocaine and is a local anesthetic, similar in its action to orthoform and said to be equally effective, but free from irritant action and toxicity. The anesthetic action, like that of the related compound orthoform, resembles that of cocaine, but is purely local, does not penetrate the mucous membranes, and in consequence of its insolubility the compound can not be used by hypodermic injection. In consequence of its insolubility the anesthetic effect is more prolonged than that of cocaine. It is recommended in various forms of gastralgia, in ulcer and cancer of the stomach for the relief of pain, and is applied locally in rhinologic and laryngeal affections, urethritis, etc.; it is also recommended for anesthetizing wounded surfaces, burns, ulcerations and painful affections of the skin. It is more effective in cases where the skin is broken. Dosage.—Internally, 0.3 to 0.5 Gm. (5 to 8 grains), in pastilles. Externally it is applied as a dusting powder, either pure or diluted. It may be applied as an ointment or in the form of suppositories. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ANTIPYRINE SALICYLATE.

Antipyrine salicylate, $\text{C}_{11}\text{H}_{12}\text{N}_2\text{O} \cdot \text{C}_6\text{H}_4\text{OH} \cdot \text{COOH} = \text{C}_{18}\text{H}_{18}\text{N}_2\text{O}_4$, a weak chemical combination of antipyrine and salicylic acid.

Actions and Uses.—This compound possesses the properties of both antipyrine and salicylic acid and combines the analgesic power of the one with the antirheumatic action of the other. It has been used with good results in sciatica, rheumatic fevers, chronic rheumatism, influenza, pleurisy, dysmenorrhea, etc. Dosage.—0.3 to 2.0 Gm. (5 to 30 grains) in cachets or capsules.

ANTITHERMOLINE.

A name applied to a preparation said to be made according to the following formula: Each pound contains 4000 grains of imported washed kaolin, washed and purified, 14 grains boric acid, 14 grains oil of eucalyptus, menthol and thymol combined, and 4.9 fluid ounces of glycerin. It closely resembles the Cataplasma Kaolini, U. S. P. Prepared by G. W. Carnrick Co., New York.

ANTITHYROID PREPARATIONS.

Preparations obtained from the blood or milk of animals, after the removal of the thyroid glands. The use of these preparations is based on the theory that the thyroid gland secretes products which are toxic, but which neutralize, and are neutralized by, other toxic substances produced elsewhere in the body. Removal of the thyroid glands, therefore, leads to the accumulation of these second toxic substances as evidenced by the phenomena of cachexia strumipriva and myxedema. On the other hand, the blood or milk of such animals is capable of preventing the effects of a hypersecretion of thyroid substance, such as is supposed to occur in Basedow's disease (exophthalmic goiter). These views are still largely hypothetical; but the majority of clinical observers report markedly beneficial results in the milder forms of the disease and in obscure nervous disorders which are supposedly connected with thyroid hypersecretion. The effects are less pronounced in the more severe forms. The action is merely palliative and other measures of treatment should not be neglected. Improvement occurs in two or three weeks and is indicated by an amelioration of the nervous symptoms, tremors, palpitation, insomnia and excitability. The administration must be long continued. Oral and hypodermic administration are equally effective, but the former is usually preferred. These preparations are not toxic, even when very large doses are used.

ANTITHYROIDIN, Moebius.

The blood-serum of sheep from which the thyroid gland has been removed at least six weeks before the blood is drawn, preserved by the addition of 0.5 per cent of phenol.

Actions and Uses.—For actions and uses see Antithyroid Preparations. Dosage.—It is administered by the mouth in doses beginning with 0.5 to 1 Cc. (8 to 15 min.) three times a day, gradually increasing the dose as necessary. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

ARGENAMIN.

An aqueous solution of silver nitrate and ethylenediamine, corresponding to 10 per cent of silver nitrate.

Actions and Uses.—It is antiseptic and astringent like other silver salts, with the asserted advantage of being nonirritant and more penetrating than silver nitrate. It is said to be useful in all cases where the noncaustic action of silver nitrate is indicated. Dosage.—It may be used in the anterior urethra in 0.25 to 1 per cent solution; in the posterior urethra in from 1 to 4 per cent solution; in ophthalmology in 5 per cent solution. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin. (Schering & Glatz, New York.)

(To be continued.)

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EDITORIAL NOTES.

The next regular meeting of the State Society will be held at Del Monte, April 16th, 17th, 18th, 1907; the Council is required by the by-laws to meet the day before (the 15th). Special rates have been made by

the hotel and postal-card notices have been sent out to all members. If you intend to go and have not yet sent in the return postal giving your wishes as to rooms, etc., do so at once, for we are advised that the hotel may be quite full about that time in April. The usual arrangement as to railroad rates has been secured. The full fare is to be paid for the going trip, and the purchaser of the ticket *must secure from the agent at the time he buys the ticket, a receipt certificate.* This must be signed by the secretary and upon presentation to the agent at Del Monte the return ticket will be sold at one-third fare. The scientific program is progressing rapidly and there will be offered many topics of interest for your discussion. Unfortunately, owing to a necessary change in the date of publication of the JOURNAL, it will not be possible to publish a preliminary outline of the program; but it promises to be quite up to the excellent standard of the last few years. The symposium feature, found to be so satisfactory in the past, will be a striking portion of the present program. In addition to the scientific matters of interest, many very important problems, and matters affecting the Society and its welfare will come up for discussion, and every county society should be well represented. We all know what a beautiful place Del Monte is, and certainly those of

us who were fortunate enough to have attended the last meeting at that charming spot will not fail to attend the present session.

The JOURNAL has, on more than one occasion, referred to the somewhat curious attitude of the *Medical Examiner and Practitioner*, a monthly publication, supposedly issued in the interests of examiners for life

insurance companies, toward the subject of reduced fees for examinations. This publication makes the plea that national, state and county medical organizations should not recognize the issue joined between the companies on the one side and the individual examiner on the other. That is exactly what the companies want. They know full well that physicians, as unorganized units, each acting for himself and without conference with his fellows, will perforce accept the ridiculous minimum fee of \$3.00; they know also that if we all stand together and refuse to accept this small fee, the companies will have to stop business or pay the \$5.00 fee. But the actual results of this campaign are discouraging. A physician in one of our Western states writes me of his experience. He absolutely refused to make the examinations for less than \$5.00—and he is now getting that fee. He states that, in a large territory, and despite the strenuous resolutions passed by various county societies, all the examiners save himself and one other are secretly accepting the \$3.00 fee. He says: "A man must value his own services in order to collect their value." "The profession has neither the backbone nor business sense sufficient to deserve \$5.00 for the work." His conclusions are: "(1) that the fight can be won and (2), that our profession will never win it." In some sections of our own state the fight has been won and \$5.00 is the minimum fee paid. Will it ever be won or the entire state? That depends upon the individual members of the various county societies and upon the honor of each one. The mere passage of resolutions will do nothing. If a man has not enough appreciation of his own worth and his own services to refuse to accept something less than they are worth, and if he will not be honest with himself and his fellows and abide by what he says he will do, the fight will never be won.

Is it worth while to be alive, or might one just as well be dead? "To be or not to be, that is the question." If one is going to live, why not live fully and helpfully and die with the knowledge that the world is at least no worse off for our having cumbered it for a brief space. There are so many things to be done, so much work waiting to one's hand, that it seems incredible that there can be any who may go through the world and live their lives without appreciating it. And for us, as physicians, there is perhaps more work than for others, who understand less well, all that needs to be done. We see every-

SOCIETY
WORK.

where the very poorest excuse for sanitary control. We see school buildings that are hygienic horrors. We see thousands of children put in jeopardy of health or life by uncontrolled association with fellow children affected with some contagious disease, and like themselves, unexamined at any time. We see others taking on a life's handicap in their early years because of some ocular defect undetected. We see public men living their entire lives not understanding the slightest particle of the ethics of our profession, not understanding us or our work or our aims or objects and having but slight respect for our profession, simply because we do not associate with and explain to them what little of our real position we could so readily make them understand. We see public institutions of town, city and state made political playthings at the expense of the sick and suffering and afflicted. We sit quietly by and permit all these, and many more crimes against our own good sense and the public welfare, and we do nothing. Mr. Bok, of the *Ladies' Home Journal*, has very ably and very truthfully put it distinctly up to us as being very largely responsible for the extent to which the nostrum evil has overwhelmed our country. Our inertia, our apathy and our failure to do our duty by the community are responsible for many things. Often the good work that a few men might do in a county is hindered or prevented by the petty jealousy of two or three men who will not do anything toward making an active county society themselves, nor will they permit the others to do what they should and would like to do. Is there no way of waking up those who are asleep? Is there no way of galvanizing a little life into some of our profession who are really two-thirds dead and don't know it?

None knows so well as the physician that it is not only wrong but dangerous to allow public health institutions to be political playthings. The average competent and reputable physician will not devote his time to "making good" with local politicians, nor to being a "good fellow" and a "glad hand artist" with the voters of his community merely to gain support that will eventually mean some political office. He is, as a rule, too busy with his study or his practice and he does not seem to realize that political work need not necessarily be done in the "glad hand" style. He thinks it must be so done, and so he wraps the ten talents of his influence in the covering of his self-esteem, and buries them; he allows his potential strength to lie dormant. It is true that there are many excellent physicians occupying political office and it is equally true that not all of them have secured such preferment by the "glad hand" method. Yet it is equally true that in the majority of cases where a considerable amount of "patronage" is concerned, positions do not go by professional worth, but because of voting influence. All this is, as we know full well, radically wrong. Public institutions for the care of the sick or afflicted should be under the management and control of the best in the profession of medicine, and not in the hands

of cheap politicians to be used for the maintenance of political prestige. This condition is presenting itself all over the United States. Very recently Dr. Frank Billings, of Chicago, appeared before the Illinois legislature and showed the solons of that state to what degradation the state institutions had fallen, through this system of political, rather than professional management. People get careless, morally as well as physically, and it is safe to say that not one voter in a thousand realizes just what the dangers of the present system of control for political aggrandizement mean to the sufferers in the care of the state. They do not know it, but we know it. Is it not our paramount duty to educate them?

How are we going to bring about any betterment of this condition of things? By helping to

EDUCATIONAL CAMPAIGN.

take the control of our state, which is the Legislature, out of the hands of cheap and unworthy politicians. And how can we help in doing that? By showing the better element in our various communities the actual and definite harm that is resulting from political control of the sick, and the tremendous expense to the state of lack of proper sanitary control. How many citizens do you suppose, for instance, realize the direct commercial value of full control of our streams and rivers by the State Board of Health? How many business men realize the direct monetary value of compulsory vaccination? How many, even of those who are on school boards or are school teachers, realize the value to the prospective citizen of a careful examination of school children, particularly of their eyes and ears? How many realize the fact that under skilled management a good many cases of insanity may be relieved and the patients restored to health and self-support, whereas under unskilled management the same persons will go on to a chronic, incurable condition? How many parsons realize the terrible harm they do to innocent people when they give testimonials to "patent medicines?" County societies in other states are waking up to the importance of these things. In Boston a series of public lectures by prominent physicians has been given, and reports are to the effect that they have been very successful. Fortunately, in our own state some county societies have also seen the importance and the value to the community of instructing the laity. In Santa Barbara a meeting was held recently between the county society and those connected with the schools, and is said to have been very instructive. One of the southern counties held a meeting some months ago to which many prominent citizens were invited, and the subject of tuberculosis was discussed. We can not too strongly urge these meetings upon our county societies. Get in touch with the people of your community; let them know what the medical profession is trying to do for them; let them see the danger which is in ignorance; show them that the quack is a danger to them and does not hurt us. It will be found that a large proportion of lay-

men are very anxious to learn these things, but have always looked upon the knowledge of the physician as though it were esoteric wisdom, and not for the comprehension of ordinary folk. Show them the real meaning of medical ethics and they will be sympathetic where now they are but scoffers.

Doubtless but few of us realize as yet the tremendously valuable work which is being done for the medical profession of this country by the American Medical Association, through its Council on Pharmacy and

SUPPORT THE ASSOCIATION.

Chemistry. The work of the Council is entirely a labor of love. The Councillors receive no compensation, we believe, for the work which they are doing for us, and the actual expenses of doing the work, which are borne by the Association, must be very great. Shall all this work and this expense be thrown away? That is a question which the medical profession of the country must decide; it is up to you, individually, as much as to anyone else. Will you follow the work of the Council, recognize the frauds it discloses and bear them in mind; will you refuse to use or recommend any of the extrapharmacopeal preparations presented to you, unless they have passed the close scrutiny of the Council and received its approval? That, it would seem, is about the least that you as a self-respecting physician, can do in justice to yourself and your patient. Any remedial preparation that you do not find in the list of "new and non-official remedies," as issued by the Council, is one to look upon with suspicion; it *may* be a good and legitimate product, but the chances are that it is not, or that the proprietors have uttered exaggerated statements as to its value. The JOURNAL will print, every month, a list of all preparations approved by the Council. Look for it, study it, keep it handy for reference.

From the *Pennsylvania Medical Journal* we learn that one of the county medical societies of

EXCELLENT AGREEMENT.

that state has had a meeting with the pharmacists and come to a most excellent agreement. The pharmacists have undertaken to stop dressing their windows with nostrum displays, to stop counter prescribing, to discourage the use of nostrums and "patent" medicines, and to refer patrons to physicians. On their part, the physicians have agreed to stop prescribing "proprietary" preparations so far as possible, to stop dispensing and to confine their prescriptions to preparations of the Pharmacopeia and the National Formulary. We certainly wish the physicians and pharmacists of Monessan County, Pennsylvania, every success in the carrying out of their undertaking. If such an agreement could be made, and then lived up to, in every county in the United States, everybody concerned, including the patient, would be better off. Are there not some active, wide awake county societies in California that will take this matter up?

REMARKS ON THE PRESENT STATUS OF INTRANASAL SURGERY.*

By LOUIS C. DEANE, M.D., San Francisco.

In the past six years such rapid strides have been made in intranasal surgery that those who have not kept in active touch with the workers in this field and with the literature, can hardly conceive the splendid progress that has been made and of the remarkable achievements of such men as Killian, Hajek, Jansen, Luc and Grunwald.

An altogether new era has dawned. A new field has been entered which has hitherto remained unexplored. New methods have been devised, with new instruments, to meet the demand. These seem sweeping assertions, but allow me a few words regarding nasal therapy and surgery of a few years ago, within the remembrance of us all, and practiced by the best.

First with regard to therapy. Sprays and douches were in great vogue and various aqueous, alkaline and stimulating oils were used with but little result; then came a long list of local applications, among them the silver salts, iodine, glycerin with ichthyol, tannin, salts of zinc, etc., again followed by little or no result; and so "catarrh" has been impressed upon the laity as being well-nigh incurable.

What chloroform and ether have been to the general surgeon, so cocain has made possible our present methods of intranasal surgery. It was first used in 1884, but ten years had to elapse before real accuracy and practice were acquired. With the aid of the active principle of the suprarenal capsule, which, with cocain, has made intranasal operations bloodless as well as painless, we have really entered upon a new era of surgery of the sinuses of the head.

First efforts were naturally directed to the removal of obstruction to the passage of air through the nose, and so the cautery, the snare, the saw and scissors constituted the most important part of the rhinologist's armamentarium. He reasoned that if the hindrance could be removed, it would have a checking influence on the discharge, which presumably came from the mucous membrane covering these parts.

The first ten years following the advent of cocain were devoted to removing polypi, sawing or burning off sharp septal spurs and the removal of inferior and middle turbinates. One can not deny that much relief was thus afforded which in most, though modified instances, is practiced today. In a large proportion of cases profuse muco-purulent discharge remained unabated or even increased. Prolonged and severe headaches which seemed only to point to that region were unaffected. It has remained for recent investigators to probe into the nasal sinuses as the real seat of purulent nasal discharge and conclude that chronic closed empyema of these sinuses is a most common cause for severe and persistent headaches.

The position and anatomical relation of these

*Read before the San Francisco County Medical Society.

nasal sinuses, or better, cranial sinuses, has been well known for centuries, for Galen referred to the ethmoid cells as a sieve for the cerebral fluids, and in 1550 Berenger, opposing the views of Galen, described these cells in detail. Vaselius in 1515 described the maxillary, frontal and sphenoidal sinuses and in 1651 Nathaniel Highmore reported a case of suppurative disease of the antrum of Highmore, from whom it received its name, followed by Velpeau, Molinetti, Mabonius and in the eighteenth century by Wm. Cooper, Lamorries and Jourdain, who operated externally upon these sinuses and laid down rules of surgical procedure. So to the present day a certain amount of surgery has been practiced externally upon these parts for acute empyema, tumors, etc.

It was not until 1891, when Bosworth published a paper on various diseases of the ethmoid cells, followed shortly by Gruenwald on affections of the frontal sinus, that anything was really known regarding their pathology.

Here we have the nasal cavities separated from each other by a bony and cartilagenous partition and directly devisable, in themselves, into three passage ways and three prominences running antero-posteriorly. It was these bold structures which naturally attracted the attention of the first workers and operations, such as have been mentioned, were performed upon them. Little thought was given to a series of from ten to twenty air cells surrounding these nasal cavities, lined with mucous membrane and in such close apposition that it was with difficulty that anatomists classified them, singly or in groups, except by the manner in which they were connected by orifices with the nasal cavities.

I will ask your privilege to devote only a moment to enumerating them, not that their anatomical situation may not be familiar, but it is the relation they bear to each other that is engrossing the attention of our present-day workers.

To be brief, we have the frontal sinuses which are *not* classified as anterior ethmoid cells because they connect separately by the infundibulum with the middle meatus of the nasal cavities. Bounding the upper and outer portion of the nasal cavities, are the anterior and posterior ethmoid cells, so divided because the anterior group are connected with the middle meatus and the posterior with the superior meatus. Then the sphenoidal sinuses, which are not classified as posterior ethmoids because, as the frontal sinuses, they have individual orifices. Finally, the maxillary sinuses, which lie to the outer side of the nasal cavities and below the posterior ethmoids. They have their openings into the middle meatus in close proximity to the nasal orifices of the frontal and ethmoid sinuses.

So here are a series of cavities, in absolute contact with each other, all in direct communication with the nasal cavities. They are moist, warm and dark and so arranged that a discharge from one can and does enter the nasal orifice of the other. Is it not to be wondered at that these recesses are not more often the seat of disease and their inaccessi-

bility has taxed the resources of the intranasal surgeon to the utmost?

Throughout this paper I have used the term intranasal surgery, because it is the intranasal route of approaching these sinuses that has really worked the present era of advancement. I do not wish to convey the idea that the intranasal route is the only way, for in many instances such an approach is contraindicated; but the almost universal method of opening these sinuses from without is gradually giving way to more rational methods in our increasing knowledge of the nasal cavities and the relation the various sinuses bear to them.

It is with considerable interest that one stands and watches Killian, of Freiburg, perform his famous operation upon the frontal sinus whereby the entire cavity is obliterated by the complete removal of the anterior and inferior walls. It is with equal wonder that one observes Jansen of Berlin remove the entire anterior wall of the maxillary sinus and by continuing in this path convert as well the posterior ethmoids and sphenoid into one; and again, Coffin, of New York, who enters the anterior ethmoids near the bridge of the nose and continuing backward with the curette successively opens the posterior ethmoid and sphenoidal sinus. Far be it from my purpose to question, at times, the advisability of such methods; only it is rarely necessary to resort to such extreme and disfiguring measures.

By the intranasal route these same sinuses can and are being entered and treated as almost a daily practice of the rhinologist, with hardly the appreciation by the patient that an operation has been performed; without interference with his daily routine and without disfigurement. This has been rendered possible by such men as Rethi, Bayer, Kaspariantz and Onodi, who from 1896 to 1900 published papers and made suggestions as to the opening of the antrum through the nasal cavity. Then followed Claoue, of Bordeaux, in 1902; Curtis, of New York, in 1903; Escot, in 1904, and Cavello, of Turin. Based largely upon the efforts of these men the Caldwell-Luc operation, for the approach of the antrum by removing a large portion of the nasoantral wall, curetting and packing, followed by irrigating and drying by streams of air, stands today as a most thorough and practical procedure.

The obliteration of the ethmoid cells through the ethmoid bulla is largely due to Hajek, Gruenwald, Myles, Luc and Bryan, who, with their special cutting and biting forceps and curettes, have rendered these apparently inaccessible cavities easy of access by the intranasal route.

Hajek, in a recent edition of his unexcelled treatise on the accessory sinuses, published in Leipzig and Vienna in 1903, shows such great regard for the intranasal route in the treatment of the frontal sinus that it is worthy of notice. He lays special stress upon resection of the anterior part of the middle turbinate and removal of polypi, hypertrophies, spurs and other pathological conditions which obstruct the ductus naso-frontalis. Such measures are not only frequently effectual in acute cases, but in the chronic cases themselves, so long as deep-seated muco-perios-

teal degeneration or destruction of the bony wall of the cavity has not already taken place. The Fletcher Ingals method of enlarging the naso-frontal duct by especially devised drills, with the use of curette and packing, seems to be a most rational treatment, though I have not had any personal experience with it. We owe, also, much to Dr. Mosher, of Boston, for his recent studies on the normal relations and anomalies of these parts.

I will finish with a few words regarding the sphenoidal sinus, for it is only within the last few years that any efforts have been made to gain access to it. Myles, Bryan and Wright of this country were among the first to attempt any operative procedures through the nasal route, followed more recently by Curtis, Behrens, Henkel and Coakley, who have demonstrated most effective surgical measures for the treatment of its diseases. While other methods have been devised for entering the sphenoidal sinus, such as the fronto-ethmoidal route as practiced by Killian, the orbito-ethmoidal route of Coffin, and the maxillary route of Jansen, the intranasal route commends itself as being the only one used for diagnostic purposes and the natural channel to follow in the treatment of its diseases. It is here only that one can enter the sinus directly, without proceeding through other sinuses to convey or receive infection. The method used consists of irrigating through its normal opening or breaking down its anterior wall and curetting and packing its interior.

In speaking of recent advancement in intranasal surgery, I have purposely avoided any particular mention of the submucous resection of the cartilaginous and bony septum as advocated by Killian and Hajek and more recently elaborated upon by Ballenger and Freer of Chicago. With its novelty and all the ingenuity shown by these operators, it can never take precedence over the more vital subject of the sinuses.

Each year brings forth new and interesting details concerning intranasal surgery, and some may feel that so much has been achieved in the past few years that little else remains to be accomplished. It is for each to acquire a more intimate knowledge of these parts so as to render us more able in our judgment of pathological conditions and more bold and thorough in our treatment.

REPORT OF A CASE OF ACUTE PANCREATITIS. AUTOPSY FINDINGS. WITH A SHORT REVIEW OF THE CASE.

By J. W. JONES, M. D., Orange, and J. M. BURLEW, M. D., Santa Ana.

Mrs. P., age 56. Gave a previous history of several acute gall-stone attacks. Otherwise history of no importance. On December 27th, was out driving, and complained of not feeling well. At 12:30 a. m. of the following day medical advice was called. She was found in a dorsal position in an agony of pain. Complained of pain under ribs

of right side. Examination showed a very large woman, abdomen pendulous. The face was bathed in beads of cold sweat, expression anxious and features drawn, skin clear, sclera clear. There was constant ineffectual writhing. No rigidity of abdomen. Percussion note normal everywhere. Upon deep palpation, marked tenderness over gall bladder. Temperature normal. Pulse normal. All symptoms seeming to point to gall stone colic, one-fourth grain morphine sulphate was given hypodermically. A mixture of calomel, ipecac and sodium bicarbonate was ordered to be followed by magnesium citrate. By 6 a. m. pain had become so severe in spite of morphine by mouth that a hypodermic of three-eighths of a grain of morphine was given and mustard plaster placed over stomach. The bowels had not moved. An enema of soap and water resulted in bringing away some hard fecal material and considerable gas. Abdomen was showing signs of distension and tenderness becoming rather diffuse. At intervals small amounts of dark brown liquid was vomited. At 2 p. m., bowels not having moved, two ounces of epsom salts were given per rectum. This was retained about one hour and returned almost clear. At 1 a. m. on the morning of the 29th, vomiting had become very severe, constantly throwing up water that had been taken in the form of cracked ice. Capsules of cocaine gr. $\frac{1}{2}$ and menthol gr. 1, every three hours controlled this for twenty-four hours. Distension of the bowels continued to increase. On the morning of the 30th, soap and water enemas were given every three hours. They were expelled usually in about half an hour almost clear, unaccompanied by gas. At 3 p. m. began to show symptoms of heart failure, and cyanosis was marked over the abdomen and at finger tips. Stimulation was given in form of strychnine. At 6 p. m., Dr. C. D. Ball was called in consultation. Temperature at this time was 100°, the first time it was above normal since attack. It seemed to us the condition was either fecal impaction or paresis of the bowels, accompanying gall stone attack. Stimulation was continued and ineffectual efforts to move bowels by enemas of oil. Patient remained clear in mind, but strength gradually failed death taking place at 4:30 on the morning of the 31st.

A partial autopsy was allowed, the abdomen being opened. Everywhere, scattered throughout the great omentum and mesentery, were small white punctuate areas beneath the surface of the peritoneum. There was a small amount of free bloody fluid in the abdominal cavity. The gall bladder was free from adhesions, and tensely distended with a small amount of thick dark fluid and hundreds of gall stones ranging in size from those just perceptible up to a hazelnut. There were very few of the larger ones. Two small stones could be felt in the common duct but none lodged in the diverticulum of Vater. The pancreas was distended to three or four times its normal size and was very friable, breaking up into a gangrenous mass on any attempt to handle or remove it. Upon microscopic examination the small white areas in the omentum proved to be areas of fat necrosis. That the

* Read before the Orange County Medical Society.

process occurred ante-mortem was evident from the presence of many leukocytes in many of the capillaries surrounding these areas.

Knowledge of the diseases of the pancreas has been the development of recent years. In past years the symptoms of obstruction that justified exploratory operation often revealed to the surgeon only small circumscribed areas in the omentum, resembling tubercles and as such they were diagnosed and the peritoneal cavity closed. These areas we now know to be composed of fat necrosis. Fat necrosis has been described since 1818, without knowing what it was. Balser in 1882, described it in such a way that it was set aside as a separate disease. Its relation to the pancreas was first demonstrated by Longerhans in 1891.

The first recorded surgical operations upon the pancreas seem to be those of Bozeman and Gussembauer. Bozeman had under observation a case which he diagnosed as ovarian cyst. At operation on Dec. 2d, 1881, the ovaries were found in a healthy condition, but the tumor mass was traced to the pancreas and successfully removed. Gussenbauer on Dec. 21st, 1882, operated directly upon the pancreas in a case in which he had made the probable diagnosis of cyst of the pancreas or the supra renal capsule. It was not until in 1885 that surgery of the pancreas was developed, the work of Nicholas Senn.

Pancreatitis manifests itself by a group of symptoms which are not characteristic but simulate many conditions, often misleading, making the diagnosis the exception and evading the acute perception of the most able and distinguished diagnosticians.

The pathology of this condition is still in many respects obscure with a still more obscure physiological chemical condition. Three forms are recognized; acute suppurative, acute hemorrhagic, and gangrenous pancreatitis.

The etiological factors are not upon a firm basis. Causes that have been mentioned but without tangible proof are alcoholism, tobacco, mercury, suppression of menstruation and pregnancy.

For the occurrence of the acute suppurative forms, bacterial invasion is necessary. Dieckhoff gives three possible sources of such invasion.

1. A hematogenous origin in which the pathogenic irritant enters into the pancreas through the blood. Only metastatic processes are brought about in this way.
2. Suppuration penetrates from the neighborhood as from an ulcer of the stomach extending to the pancreas.
3. The pyogenic irritant enters from the intestine through the excretory duct.
4. Fitz. in the conclusion of his paper states the method of origin of the acute form is commonly from the extension of gastro-duodenal inflammation along the pancreatic duct. It may be induced by hemorrhage into the pancreas of traumatic origin but more frequently of an unknown cause. Pancreatic hemorrhage may be secondary to pancreatic inflammation. Opie, while of the

opinion that the hemorrhagic form is sometimes of an unknown origin, thinks it is probably most often secondary to a more or less extensive acute inflammatory form. Robson also mentions bacterial infection as the essential and immediate cause but calls attention to extrinsic causes just as they are found in inflammatory conditions of the liver and bile ducts. As such determining factors he enumerates pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus or duodenum and zymotic diseases such as typhoid fever and influenza. But in some cases individuals previously of robust health, are suddenly attacked, the determining cause of which can not be recognized. Hemorrhage is an accident in the course of the disease. He considers the most usual channel of bacterial infection through the duct although recognizing the possibility of direct extension of the way of the blood.

The association of pancreatic disease with gall stones has come to be recognized as a frequent occurrence. Robson says that he has had it absolutely forced upon him by the number of times he has found inflammatory enlargement of the head of the pancreas when operating for gall stones in the common duct. Numerous such cases are reported in the literature, as Lund three, Bryant two, Stockton and Williams, one, Struppel, one, Hahn, one. In a number of reported cases, autopsies were not obtained, and in others the gall stones were not looked for. That it may require close search is shown by Halstead's case reported by Opie in which the stone was but 3 mm in diameter, closely fitting into the diverticulum of Vater. The relation of the stone must be such that while the opening into the duodenum is closed there is still communication between the common duct and the duct of Wirsung. This requires a definite relationship between the depth of the diverticulum of Vater, the duodenal orifice and the stone. Opie has estimated that in little more than three of ten individuals are the anatomical conditions such that a small calculus may divert the bile into the pancreatic duct. This is an explanation of the rarity of the disease compared with cholelithiasis. By the majority of authors the lodgement of such a stone is considered the chief etiological factor but cases are cited by Opie in which no evidence of gallstones could be found and the case must be left unexplained.

Experimentally, Opie has produced hemorrhagic pancreatitis by the injection of bile into the duct of the pancreas of animals in amounts of 2.5cc to 5cc. He cites a number of others who by the injection of other substances have caused a similar condition. Osler by 1-40 normal sulphuric acid, Flexner by hydrochloric acid varying in strength from .5 to 2% and in amounts from 3 to 5 cc; also sodium hydroxide and formalin. Hlava by injecting into the pancreatic duct artificial gastric juice containing hydrochloric acid in proportions of 1 to 1,000, death following in three days. He also produced hemorrhagic pancreatitis by the injection of the bacillus coli communis, bacillus lactis aerogenes and bacillus capsulatus of Friedlander.

The pathological anatomy is well summarized by Fitz. "The anatomical varieties are the suppurative, hemorrhagic and gangrenous. The first may be acute but is usually subacute or chronic. The second is generally peracute or apoplecticiform. The gangrenous variety runs an acute course."

"Suppurative pancreatitis may result in an evacuation of the abscess into the stomach or duodenum or may open into the cavity of the great omentum, which transformed into a large peritoneal abscess, may in turn empty into the digestive tract. Pylephlebitis and abscess of the liver may follow. Disseminated fat necrosis is comparatively infrequent."

"Hemorrhagic pancreatitis usually proves fatal in from two to four days. The gross lesions are those of hemorrhage within or near the pancreas extending into the subperitoneal fat tissue, perhaps as far as the pelvis. Peri-pancreatitis may be expected and disseminated fat necrosis is common."

"Gangrenous pancreatitis, although it may be secondary to a perforating inflammation of the gastro-intestinal or biliary tracts, usually results from a hemorrhagic pancreatitis and proves fatal in the course of a few weeks. The gangrenous process extends to the parapancreatic tissue and produces a more or less complete sequestration of the pancreas. The peritoneal wall of the omental cavity becomes inflamed, that covering the pancreas may be destroyed, and the sequestered gland may lie in the omental cavity soaked in pus and attached only by a few shreds. Both pus and pancreas may be discharged into the intestine. Splenic thrombophlebitis is not uncommon, but hepatic abscesses are rare. Desseminated fat necrosis is frequent."

The diagnosis is often difficult and often impossible. Nothnagel's system emphasizes the following points: In the presence of a more or less painful tumor in the epigastrium free from the stomach or colon, which can be shown by dilation of these organs, disease of the pancreas is to be thought of. But the tumor formation is relatively rare. If ulcers or malignant disease of the stomach or duodenal disease can be ruled out the probable source of the disease may be attributed to the pancreas when the onset is sudden without premonitory symptoms; the maximum symptoms of inflammation are rapidly reached; and there is profound prostration and in some cases diabetes. The common symptoms are sudden, severe, and often excruciating pain in the epigastric region without demonstrable causes; nausea, usually uncontrollable wrenching or vomiting of a dark material, tympanitic swelling of the epigastrium, slow, weak pulse with cyanosis usually most marked over the abdomen and at finger tips, and obstinate constipation. The extreme prostration, frequent collapse, low fever, weak pulse and cyanosis are among the most characteristic symptoms.

Generally, constipation precedes the attack, but diarrhea may occur. Halstead emphasizes the importance of the cyanosis. Of this he says: "My attention was called to the cyanosis by the point of my fingers on the abdominal wall" and lays especial stress upon "the point of the finger tips in a

slightly cyanosed field just over the site of the greatest pain."

Glycosuria, lipura, and fat in the stools are of infrequent occurrence, but when they do occur are of the greatest diagnostic importance. But it must be remembered that fat in the stools may be associated with ingestion of great quantities of fat, obstruction of bile, tuberculosis and catarrh of the intestine and tuberculosis of the mesenteric glands.

Robson refers to the investigation of the urine of his cases by Mr. Commidge. He found that the boiling of the urine with an oxidising agent and then performing the phenyl-hydrazine test would result in the formation of delicate yellow needles arranged in sheaves or rosettes. No such results could be obtained with normal urine or morbid urine obtained from various sources. Too few cases have been examined to establish the validity of this test. Opie recommends the use of ethyl-butyrate in testing the urine for the presence of a fat splitting ferment. This substance acted upon by a fat splitting ferment is decomposed with the formation of butyric acid, which gives an acid reaction to a urine previously neutralized with potassium hydroxide.

The differential diagnosis according to Fitz lies between an irritant poison, perforation of the intestinal tract or biliary tract and intestinal obstruction. The history would exclude poisoning. The absence of intestinal hemorrhage and pain on food taking would exclude ulcer of the stomach or duodenum. Gall bladder perforation is usually preceded by attacks of biliary colic and jaundice. The rare occurrence of perforation of the colon or small intestines in the epigastric region establishes the improbability of it. Halstead reports a case which he diagnosed as obstruction but upon operation found it to be one of pancreatitis. So in many cases it is first recognized during operation by the presence of the punctate point of fat necrosis, and the bloody fluid in the abdominal cavity which lead to an investigation of the lesser sac and the pancreas.

The medicinal treatment is purely palliative. The patient should be carried over the initial shock and prostration as the general condition usually improves after a few hours when operation is indicated.

Robson says the treatment of the acute infective form is that of peritonitis. The pain may be so severe that morphine must be administered. The collapse will probably demand stimulants which often must be administered per rectum on account of vomiting. The distension calls for evacuation of the bowels. The operative treatment is incision at the left costo-vertebral angle and drainage. Exploratory incision may be made by a small incision in the median line above the umbilicus. Free drainage should be maintained. Hahn thinks that the bloody fluid which accumulates in the peritoneal cavity in this disease is toxic and perhaps infectious so that its rapid evacuation is indicated. Gulcke has proven the cause of death to be due to trypsin intoxication. This explains the toxicity of the free fluid of the abdominal cavity and the importance of free drainage. Gulcke succeeded in

immunizing dogs against trypsin intoxication and against transplantation of pancreas tissue otherwise fatal.

Operation in these cases is often accompanied by uncontrollable hemorrhages. In one of Robson's cases the patient died from a continuous oozing of the surgical wound which resisted all known means of hemostasis. He has found this to be true, especially in those cases accompanied by jaundice, and far more dangerous than in the jaundice of biliary disease alone. In such cases he recommends the administration of calcium chloride in 30 to 60 gr. doses three times a day, for 24 to 48 hours before operation and by enema in 60 gr. doses three times a day for 48 hours after operation. By this precaution hemorrhage has been avoided.

CLINICAL NOTE. A PRACTICAL POINT IN INSTRUMENTAL DIAGNOSIS.

C. M. COOPER, M. B.

It has long been widely known that the eyelets of a stomach pump may during gastric lavage become occluded by the gastric mucous membrane, and if the pump be then withdrawn a piece of membrane may be torn from its moorings, and brought away with the tube. The suction into the tube eyelet often occurs suddenly, and is commonly evidenced by a peculiar jerk which may be felt throughout the entire tube. To avert any trauma, we pour a little water into the raised funnel; this forces the mucous membrane away from the tube opening, and we withdraw the tube past the cardia while the water is still flowing into the stomach.

It is not so well known that analogous mishaps may occur during the use of other instruments of diagnosis, e. g., the ureteral catheter and the sigmoidoscope.

Perhaps the recital of an actual occurrence may best convey one's meaning. I lately saw in consultation a lady afflicted with what I believed was, and which, indeed, at operation proved to be, a large malignant tumor arising from a left floating kidney. I advised and was then asked to make a pre-operative determination of the right kidney function. The ureteral catheter was introduced painlessly without the use of an anesthetic. The cystoscope was withdrawn clean. Urine dropped intermittently from the catheter. I watched the procedure for half an hour and then left, leaving instructions with a competent person to withdraw the catheter after another half hour. The report later given me was as follows: Urine had continued intermittently to drop into the receptacle for ten minutes, then had ceased, pain being complained of along the course of the ureter. The catheter was left in position for another twenty minutes, during which time no urine flowed from it; it was then withdrawn. Two drops of "thick" blood fell from the catheter eyelet and the patient passed blood in the urine for the next six hours.

An almost identical episode happened to me a week later. This time, however, the patient passed blood for twelve hours. I believe that during the

passage through the catheter of the drop of urine immediately preceding the lull, a piece of ureteral mucous membrane had been sucked or forced into the catheter eyelet, and then either ureteral contractions or the withdrawal of the catheter had caused an abrasion, from which the blood came. Common sense would seem to suggest that when such happens a little sterile water should be injected with a hypodermic syringe into the catheter, thus forcing away from the eyelet the mucous membrane, and that the catheter be withdrawn during the injection.

In proctoscopic work the mucous membrane of the lower part of the sigmoid or of the upper part of the rectum can be frequently seen to be driven or sucked into the mouth of the instrument. If the tube be then withdrawn there is a tendency to the production of a partial prolapse, or to a dry cupping of the mucous membrane. Removing the cap and thus insuring a continuity between the external air and the column of air in the rectum does not always lead to a replacement of the rectal mucous membrane any more than does continuity between the external air and the columns of air within the stomach tube or ureteral catheter prevent injury to the mucous membrane of those structures. But if air be gently pumped in, the tissues are lifted away from the tube and the instrument can be drawn back into the lower rectum, the cap removed, then the instrument withdrawn in safety. I may add that I have learned through experience the advisability of making such proctoscopic examinations before allowing the presence of occult blood in the stools to influence a doubtful diagnosis, and then take the opportunity to collect some fecal matter in the inner end of the tube, as it lies in the vicinity of the rectal-sigmoid junction, thus avoiding contamination from little hemorrhagic spots in the lower rectum, from hemorrhoids or from anal canal excoriations.

DIAGNOSIS AND TREATMENT OF ECTOPIC PREGNANCY.*

By GEO. B. SOMERS, M. D.

One of the most interesting conditions met with in the diseases of women is ectopic pregnancy. It fixes the attention because of its insidious nature, the obscurity of its symptoms, and because it often ends fatally even before the true situation is realized.

Though the condition is now well understood, and though an enormous number of articles have been written about it, nevertheless its serious nature and the frequency with which it is overlooked, are sufficient apologies for resurrecting the subject. In order to guard against adding to the long list of undiagnosed cases of ectopic pregnancy, many of which have slipped away to death when they might have been saved, it is necessary to keep constantly in mind a vivid mental picture of the condition and make sure that it is eliminated before attempting to diagnose any case of pelvic disease.

Frequency—An important factor in diag-

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nosis is a realization of its frequency. It is, of course, impossible to estimate how often it occurs, but all surgeons, pathologists and post-mortem workers, meet it so often that they come to look upon it as a comparatively common condition. Laparotomies often reveal tubal gestation which would otherwise be overlooked, and we have come to acknowledge that what was formerly diagnosed simply as pelvic hematocoele or pelvic hematoma, is in almost every case due to tubal abortion. Finding blood in the pelvic cavity leads us, as a rule, to hunt for an ectopic pregnancy, unless some other cause is plainly apparent.

Edgar, in his work on obstetrics, estimates that one ectopic occurs in from 500 to 1000 normal pregnancies.

In 3500 general autopsies, Formad found 35 cases, or about 1 per cent.

In eight hospitals in Chicago during 1904, 56 cases were reported.

In my own limited practice 10 cases have fallen into my hands. I may say in passing that, like many other things in the practice of medicine, except coin, these cases are often handed out in bunches, for of these ten cases extending over a period of five years, five of them occurred within a period of two months during the latter part of 1905.

Tubal gestation must be accepted as one of the causes of tubo-ovarian disease. It is readily conceivable that the products of an early tubal abortion may in time be entirely absorbed, leaving little or no evidence behind; but in severe cases where considerable reaction is set up enough local disturbance may remain, permanently to injure both tube and ovary, leading at some subsequent time to an operation for removal of the diseased parts. The following is in illustration:

Ectopic Pregnancy as a Cause of Pelvic Disease.—Mrs. M., age 32. One child 9 years old. No miscarriages. Three years after the birth of her child she had all the symptoms of pregnancy, but was suddenly afflicted with severe pain in the abdomen. She was attended by Dr. Adelaide Brown of San Francisco and by Dr. Ritter of Oakland, who diagnosed ectopic pregnancy. For some reason an operation, though proposed, was not carried out. Patient was in bed seven weeks, but the symptoms gradually cleared up, leaving no particular after effects except dysmenorrhoea. Six years later, in January, 1905, without noticing any acute symptoms, she discovered a lump in the side which gradually increased in size. An examination revealed an ovarian cyst. She was advised to submit to an operation. When a laparotomy was made a large tubo-ovarian cyst containing about a quart of reddish brown fluid was removed. All the pelvic organs were bound down by adhesions. The right tube and ovary were removed, a portion of the left allowed to remain. Convalescence was without event. The operation in this case took place six years after a diagnosis of ectopic pregnancy. No fetal structures were found, but in the absence of any other assignable cause, the tubal abortion may

very properly be ascribed as the origin of the diseased condition.

As almost all cases of ectopic pregnancy terminate within the first six or eight weeks, either rupturing the tube or aborting into the pelvic cavity, it is convenient to divide the symptoms severally into those that occur before, at and after rupture or abortion. Those cases that go on for five or six months, or even to full term, fall more properly into the domain of obstetrics, because here we have a large viable fetus to deal with.

Symptoms.—In the earliest stages of tubal pregnancy, before rupture, it is imperative to make an accurate diagnosis, because it is during the first few weeks that it is fraught with the greatest danger. In a typical uncomplicated case, the symptoms are quite clear and the diagnosis is comparatively easy. In fact the history alone, without any physical signs, is sufficient to reveal the condition. The group of symptoms occurring before rupture, are:

(1) Amenorrhoea; (2) Signs of pregnancy; (3) Pelvic pain or discomfort; (4) Irregular hemorrhages; (5) Shedding of decidual tissue.

If in addition to these symptoms the pelvic examination shows a distinct boggy mass behind or lateral to the uterus, the diagnosis is complete.

When rupture occurs, we have evidences of internal hemorrhage and shock shown by sudden severe pain, fainting, extreme pallor, cold sweats and thready pulse. If the case is to terminate fatally the symptoms rapidly progress to the end. In other cases the symptoms of hemorrhage may be repeated several times in the course of a few days or weeks. It should be understood that the seriousness of the symptoms at the time of rupture vary according to the situation of the embryo in the tube. The nearer to the uterus, the longer will be the gestation and the greater the hemorrhage when rupture occurs. Where the impregnated ovum remains near the fimbriated extremity, it usually aborts early, producing comparatively small hemorrhage and mild symptoms. Such pregnancies undoubtedly often terminate spontaneously in complete recoveries, and perhaps are not even diagnosed.

Again, if the rupture of the tube happens to take place into the broad ligament, instead of into the pelvic cavity, the symptoms would be considerably modified. The symptoms present at any time after rupture vary considerably. The blood is rapidly absorbed and in the course of time all the evidence that we may have that the condition has been present is the past history and the presence of a small, tender mass in the pelvic cavity.

Diagnosis.—With a clear history and no complications, the diagnosis of ectopic pregnancy is easy, but as a matter of fact the diagnosis is overlooked quite as often as it is made. Often, when the condition is revealed by the operation, we find that a careful review of the history points distinctly to the correct diagnosis.

The most characteristic symptoms before rupture are the occurrence of amenorrhoea, followed by

irregular bleeding and the passing of decidual shreds.

The most characteristic symptom at the time of rupture is the suddenness and severity of the pain. A celebrated example is the death of Adelaide Neilson. While walking across the floor of a cafe in Paris, where she was dining, she suddenly dropped to the floor and expired an hour or so later. The post-mortem revealed an ectopic pregnancy.

Many ectopic cases occur in women who have been sterile for a number of years. In the cases of which I have record, three occurred in primipara. One of these, seven years after marriage. After previous pregnancy, one occurred eight months, one three years, one five years, two six years, one fourteen years and one seventeen years. The long interval since the previous pregnancy is often misleading, but should really answer as corroborative evidence: The complications which are likely to obscure the diagnosis and which are often the causes of the condition are abortion salpingitis, appendicitis, uterine and ovarian tumors.

The following is a typical case with clear history and symptoms where the diagnosis was made with certainty:—

Mrs. M., age 28. Four children and four miscarriages, the last one occurring in April. Menstruation became regular until the following November, when the period was very scanty. In December the flow was constant in small amount. Dr. Mary Halton, who had charge of the case, found pieces of tissue in the discharge. From a microscopic examination she found that the tissue was decidual. This, together with the finding of a soft boggy mass in the pelvic cavity, completed the diagnosis. On opening the abdomen, the fetal structures were found in a sac between the tube and ovary on the left side.

In November, 1906, a case presenting a similar history and with a correct diagnosis, was presented by Dr. Chester Teass of Cheswick.

There is no excuse for overlooking a case with typical signs, but taking all cases together, it is probably a conservative statement that not one half of those that come to operation are recognized before the abdomen is opened. This estimate is not my own, but it corresponds only too closely to my own experience in making misses.

What difficulties stand in the way of diagnosis? There are a number of conditions that serve to obscure the true situation. The classical group of symptoms denoting an ectopic pregnancy are after all only presumptive signs, just as in a normal pregnancy. We must have the grouping together of a number of symptoms and the chain of evidence unbroken, before we can make out the true diagnosis. Some of the most important symptoms may be due to other conditions. Amenorrhoea, for instance, may be due to other causes than pregnancy. Irregular hemorrhages may be due to three or four different causes. Even the detection of decidual tissue may mean nothing more than that an abortion has

occurred. Furthermore, the decidual tissue is often hard to diagnose from hyperplastic endometrium. As for the physical examination, what we feel may or may not throw light on the condition.

Finally some form of pelvic disease may effectually obscure all symptoms pointing to a pregnancy. The history of two or three cases where the diagnosis was missed may answer as illustrations.

Diagnosis Obscured by Fibroids.—Mrs. C., age 40, living in Arizona, referred to by Dr. A. W. Barrett. Married 19 years, one child 14 years old. Never had any miscarriages. Has had womb trouble for a number of years past. About 8 years ago was curetted. During the last 4 or 5 years health has been gradually failing. Periods have been irregular, painful and excessive. Since the last flow there has been constant bleeding. The present symptoms began four weeks ago with great pain and great distention of the abdomen. No signs or suspicion of pregnancy noted. Examination showed the pelvic cavity choked with an irregular mass extending up nearly to the umbilicus. Diagnosis of fibroids with local peritonitis was made. At the operation not only large fibroids were found, but many large clots of blood and on hunting further, evidence of an ectopic pregnancy from a ruptured tube was found.

Profiting by this case another very much like it, which came under observation a month later was not overlooked.

Ectopic Pregnancy Complicated by Fibroids. Diagnosis Revealed by the History.—Mrs. S., age 34, living at Washoe, Nevada, referred by Dr. Pickard. Patient had been married seven years but had never been pregnant. Menstruation not very regular, usually too soon, but never over time. Lasts for three or four days and is always accompanied by very severe pain. In November, 1905, menstruation was delayed five days. In December, the period was delayed one week. Since the last period, has flowed constantly, passing with the discharge a number of shreds. Breasts have felt a little full during the last few weeks. Has had several attacks of sharp pain located on the right side. Examination showed the presence of large fibroids. The region surrounding the uterus seemed soft and boggy. The diagnosis of ectopic pregnancy complicated with fibroids was made and confirmed by operation.

In three other undiagnosed cases that fell into my hands, one was a Japanese woman who could give no intelligent history and the other two were obscured by the presence of salpingitis for which they had been treated. One of the latter histories is as follows:

Diagnosis Obscured by Salpingitis.—Mrs. E., a large, robust Swedish woman, age 38. One child 17 years of age. No miscarriages. Was married the second time about eight years ago. In March, 1901, she applied for treatment on account of menorrhagia and leucorrhœa. She was curetted March 16th. While under the anesthetic a bimanual examination showed a small mass on the

left side of the uterus which was thought to be a large tube. She did well for three months subsequent to the curettement, menstruating regularly. About the middle of the following July, she was taken sick with considerable pain in the lower abdomen, slight fever and rapid pulse. An examination showed the abdomen considerably distended, very tender. A small mass could be made out in Douglas' pouch. Supposing that the symptoms were due to a fresh attack of salpingitis, she was advised to enter the hospital. A few days later, on July 24th, on opening the abdomen, an ectopic pregnancy was discovered. The tube bound down by old adhesions had ruptured, leaving about a pint of blood in the pelvic cavity. After the diagnosis had been made by opening the abdomen, it was easy to confirm it by harking back to the history. On questioning the patient closely concerning the events leading up to her sickness, it was found that she had menstruated regularly and was feeling well up to the time of her present illness. But suddenly, while working about the kitchen, she felt a sharp pain in her side and fell to the floor, rolling about in agony. She was helped into bed, had hot applications applied and felt better. She was not seen until 24 hours after this occurrence when the acute symptoms had subsided. The sudden onset of pain, such as occurred in this case, accompanied by fainting or shock, was very characteristic of the condition. It means, of course, leakage, or abortion, or rupture.

This case also illustrates one of the chief points that I wish to make, namely, the paramount importance of a careful history in arriving at a diagnosis in pelvic disease. As between a physical examination on the one hand and a careful history on the other, the latter is far more important in the majority of cases of pelvic disease. In my own experience, and I am sure it will hold good in the experience of others, where ectopic pregnancy has been overlooked, the fault lies in failing to get a satisfactory history.

Treatment.—Every once in a while the question is raised as to the choice between vaginal section and abdominal section in operating on these cases. If the diagnosis is made, to my mind, the only safe procedure is to open the abdomen. A vaginal section might be used as an exploratory measure, but only under circumstances where one is prepared to perform a laparotomy if necessary. Where there is hemorrhage, it is sometimes hard enough to check it even with the abdomen open. With a vaginal section, the difficulties of the operation are vastly increased in all directions.

When a diagnosis is made, an operation should be performed as soon as possible thereafter. Even if the hemorrhage has ceased, there is need of reasonable haste, for the bleeding may start up again at any time with even greater severity. As regards technic, the procedure depends largely upon the conditions found. If the amount of blood in the pelvic cavity is small, it is easily removed, together with the ruptured tube. Usually both ovaries and

the uterus are covered with large amounts of exudate and adherent clotted blood, appearing to be in bad condition, but careful examination and careful wiping will show the trouble to be external rather than intrinsic. One may therefore safely be conservative with regard to all else than the affected tube unless the other parts are distinctly diseased.

If the patient is in bad condition, and the abdomen filled with blood, the first procedure is to stop the hemorrhage. The question now arises as to what shall be done with the blood. According to Futh the operative procedures are of three kinds. One group of surgeons believes that all the blood should be left in the abdomen to be absorbed, thus lessening the anaemia which is one of the most serious symptoms of the condition. Another group removes all the blood carefully by washing and sponging the organs lest the blood clots become infected. The majority of operators, however, hold the middle course, removing the larger portion of the blood, but allowing what can not be easily reached to remain, so as not to prolong the shock of the operation.

It may be said in passing that in profuse hemorrhage into the abdominal cavity, it is almost impossible to remove all the blood, for it finds its way up under the liver and even through the foramen of Winslow into the lesser peritoneal sac. Some blood remaining does no harm, and the removal of the easily reached blood is, in my opinion, all that is necessary, but on account of the anaemia and shock, it is quite an important measure to fill the abdomen with normal salt solution as substitute for the lost blood. This salt water is quickly absorbed and is of great service in overcoming shock.

In conclusion, the points concerning ectopic pregnancy that seem to me important are:

- (1) The condition is more common than is realized.
- (2) It is often overlooked.
- (3) The symptoms are often obscure.
- (4) In diagnosis the history is much more important than the physical examination.
- (5) Granting the difficulty of diagnosis and the serious nature of the disease, the possibility of its presence should be borne in mind whenever a case of pelvic disease is under examination.

EUROPEAN CLINICS.*

By EDWARD C. SEWALL, M. D., San Francisco.

On my recent visit to the clinics in Europe I saw many things that interested me. Many of them I have already found of great advantage in my work and I present them with the hope that some of the points may possibly be of interest to you.

The time spent in Prof. Killian's clinic, where both he and his first assistant, Dr. von Eicken, showed me the greatest courtesy in allowing me to remain for months and take an active part in

*Read before the Eye, Ear, Nose and Throat Society.

the work, was replete with interesting clinical experiences.

We all have much interest to-day in the surgery of the accessory sinuses. Killian has done more than anyone in the furthering of our knowledge of these cavities and the treatment of their diseased conditions. For a small clinic, he has an enormous number of operations, and adverse criticism has been made in this regard. When one has been there, however, for a time, and has seen that the country at large furnishes these cases, the frequency of them is accounted for.

I had my eyes opened to the conservative methods of work on one of my first days in the clinic. I was told to examine a case, and on finding pus coming from the frontal and anterior ethmoidal region, asked what was the treatment. General measures to add to the comfort of the patient, mild sweating, rest in bed, etc., were adopted. The drainage was good and the patient was allowed to recover, which she did, practically unaided, in a short time. Then cases of a chronic nature receive all the treatment in the way of irrigation of the cavities, correction of pathological nasal irregularities, etc., that seem of advantage. *Intra* nasal ethmoid work is also done to a certain extent, and the cells are opened intranasally as far as it is considered safe to proceed. It is only after the most conservative and careful study of the cases that radical measures are adopted.

It is unnecessary to go over the frontal sinus operation as outlined by Prof. Killian, but there are certain features in the technique which I have already found to be of advantage in doing the operation. The first cut is made slowly and carefully, the incision going only through superficial layers of the skin; this gives greater accuracy than when we cut deeply. After making this first curved incision, small cross-nicks are made, especially in the upper inner angle of the orbit. These are valuable, when we come to putting the skin back in place, as landmarks. The incision is now deepened by successive long sweeps of the scalpel. It is Killian's habit now to remove the *supraorbital* nerve at the time of the operation, on account of persistent neuralgia, which was present in some of his cases. This adds a difficulty to the procedure, but merely necessitates going more slowly, dissecting the nerve and carefully separating it from the artery. It is then grasped by a pair of specially grooved forceps, which I have brought with me, and by slowly turning the same, the nerve is wound out, being thus drawn peripherally and centrally. After the removal of the nerve, a simple expedient is made use of that greatly shortens the next step of the operation. The skin of the forehead is drawn upward so that the *bottom* of the incision first made, which was through the eyebrow, now lies some distance above the supraorbital rim. Pressure is made by an assistant on the supraorbital artery from below and the incision is carried now with one cut through tissue and periosteum, giving us the upper limit of the ridge to be preserved. The hemorrhage,

at this early stage of the operation, is annoying, and this simple expedient saves time. Clamps are now applied to bleeding vessels.

I will now leave the operation here and speak of the disturbing hemorrhage which I had in my former operations, after opening into the ethmoid cells. I found it necessary to work to a large extent by the sense of touch. This is all avoided in the following manner. The nose, previous to the operation, is packed as full as possible with long tampons of cotton, each fastened by a string; this has great influence in controlling the hemorrhage. Killian, on opening the ethmoid cells, works backward very slowly, never opening a cell until he has seen it absolutely plainly and studied it with his probe. Here, he makes use of adrenalin, but what has far more value, is the use of simple normal salt solution, which washes out the blood and debris, and makes all the procedure very plain. Killian uses his salt solution, as I saw him, on strips of gauze, with which he washed out the cavity.

I have, since seeing him use salt solution, used it in a common irrigator, and have found it to work beautifully; all blood and debris is washed out, and the excess of solution is drawn out with a large glass syringe and the cavity dried. In this way, I have been able to study each cell carefully before opening it, and on arriving at the sphenoid had no difficulty in opening it *if it was diseased*.

In a case operated on this morning, the ostium sphenoidale was found plugged with granulation tissue. On introducing probe into sinus much pus flowed out under pressure.

The next *modification of his method* he has made in regard to the treatment of the middle turbinal bone. After finishing with the ethmoid region, the mucous membrane of the nose is cut through; this is preserved as a flap, but Killian has not a great opinion of its value as such. The middle turbinal now lies in view, and a varying amount of it is amputated according to its character as to pneumaticity. He is conservative in all this work, and leaves as much of the middle turbinal as possible. This allows a protection to the cribiform plate. A light gauze drain is now introduced into the frontal sinus and brought out at the anterior nares. The tendency is to get away from rubber tubes and packing, except where the latter is necessary to control hemorrhages.

The closing of the wound, he formerly did by celluloid suture. He now uses a soft aluminum wire, which is admirable. I have since used silver wire, and find it to work very well. These sutures are interrupted, and do away with capillarity.

Killian's results are brilliant, and patients are up and about without dressing in a week to fourteen days. The discharge of course continues much longer, but becomes very rapidly lessened. In regard to the greatest objection to the operation, the deformity, a few words are necessary; it is entirely from the retraction. The scar is imperceptible in a short time. Where the sinus is large, the retraction is ugly, but even in these cases, paraffin

injected cold, relieves the condition. Where the frontal sinus is moderate or small in size, the retraction is insignificant. In these cases, the entire resulting deformity is nil. It is, then, of the utmost importance in giving our prognosis as to cosmetic results, that we know the size of the sinus. We can get at this by probing in some cases approximately, in others, transillumination gives us a not very reliable idea of the extent of the cavity. It is only since the introduction in Killian's clinic of the X-ray photographing of the head from behind, that we have an absolute method of determining the amount of deformity we are to expect. This has been worked out very thoroughly by Drs. Killian and Von Eicken, and pictures are made of all cases. This is not the only sphere of usefulness of such pictures; they also show the presence or absence of such sinuses, and of *greatest* importance, indicate very clearly diseased conditions.

A case very much in point, is one of which Prof. Killian told me. Antrum washed out, no pus. Reported to surgical clinic, no disease. Sinus was later opened and found filled with tubercular granulation tissue. The X-ray would have shown this. I have brought with me some such plates, made for me by Dr. C. M. Cooper, in which he has demonstrated most beautifully these points. In one of these plates especially, the presence of pus in the cavities of the left side, is very clearly shown. I have since performed the Killian operation on two of these patients, doing also the Ogston-Luc operation for the antral infection at the same time. The findings at the operation bear out the diagnosis as shown by the plates.

In speaking of the frontal sinus operation, I wish to mention Dr. Jansen's modification of Killian's operation: In order to obviate the necessity of depression in cases where there are large sinuses, he separates the anterior wall from its attachments on all sides, *but the upper*, and then grasping it firmly between the jaws of forceps, turns it forcibly upward, breaking it away and thus forming a hinge joint above. After cleansing out the sinus, he puts this flap back into place. This idea however, is contrary to Killian's theory that retraction, *at least for a time*, is necessary to cure the disease by ablation of the cavity.

There are one or two points on the submucous resection of the nasal septum that I found of advantage. There is always difficulty, after separating the mucous membrane from the cartilage of the septum, of continuing the stripping down over the bony excrescences, which are often the cause of the greater part of the deformity. We are leaving now, the mucopericondium, and are encountering the mucoperiosteum, and must cut through this either with a scalpel or by vigorous use of our periosteal separator. Attention to this detail will avoid perforation.

This operation certainly has a broad sphere of usefulness. Cases of sinus infection have healed spontaneously when septum deformity has been corrected so that drainage is not interfered with. In

regard to the anesthesia in this operation, Von Eicken employs the tablets of cocain and adrenalin, submucously injected. Well diluted, the solution itself helps to raise the mucous membrane. The anesthesia produced by pledgets of cotton soaked in the solution and applied, does not compare with this method of injection. Ogston-Luc operations I have also seen Von Eicken do under local anesthesia.

Killian has, I think, made a useful modification of this radical treatment of antrum disease. His method of leaving the anterior and posterior ends of the inferior turbinal bone, allows a sufficient drainage, and at the same time, saves valuable parts to the nose. He formerly preserved the mucous membrane of the lateral wall of the nose as far as possible, and placed it in his curetted cavity to aid in the epithelization. This, however, he has found to be of little use and has abandoned the procedure.

In making his diagnostic entrance into the antrum, or in treatment, he chooses the middle meatus, and on a great many of his patients is able to enter through the natural opening.

(I have brought his trocars and canula in case any of you should be unacquainted with them.)

The Killian tubes for direct bronchoscopy and tracheoscopy are in constant use in the clinic. I saw the removal of foreign bodies from the bronchi, and was much impressed by the importance of the tubes for diagnostic purposes.

The same high-class work was carried on in Prof. Axenfeld's clinic, near by. The work done here in the bacteriology of the eye has made the laboratory famous. I saw Prof. Axenfeld do a number of cyclodialysis operations: the comparatively new procedure for chronic glaucoma. I also saw this operation several times in Prof. Fuch's clinic in Vienna, but it was still in too much of the experimental stage for an idea of its value to be obtained.

These are a few of the points that come to mind as I think over the work in the clinic at Freiburg. I was much impressed by the quiet, scientific and thorough manner in which all the work was done there.

LABORATORY METHODS OF DIAGNOSIS IN TYPHOID FEVER.*

BY HERBERT W. ALLEN, M. D., SAN FRANCISCO.

Excluding malaria and possibly diphtheria, there are few, if any, of the acute infectious diseases in which careful laboratory work is of greater assistance in diagnosis than in typhoid fever. In some cases its aid is almost superfluous, in many it assists in early diagnosis, while in a few, diagnosis without it is practically impossible.

In this paper I wish to run over briefly the various methods that are of value in suspected cases. First and probably most important, is the matter of blood cultures. These have been used more or less for many years, but it is only since about

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1900 that the method of adding considerable amounts of blood to large quantities of fluid culture medium has allowed of results constant enough to be of material value in diagnosis. At the present time typhoid bacilli can be easily demonstrated in the blood in at least 80 per cent. of unselected cases. If the results are grouped according to weeks of the disease, the figures are 93 per cent. or over for the first week, 76 to 80 per cent. for the second, about 56 per cent. for the third, and but seldom thereafter. The bacilli have been found as early as the second day; very frequently on the third and fourth days; in other words, at a time when diagnosis by other means is almost impossible. Positive findings have the added advantage that they are unequivocal; they must mean typhoid fever, and are not simulated by any other condition. Under favorable conditions, negative findings have almost as much value as positive ones. The technique is simple, but bacteriological cleanliness must be accurately observed. Any superficial vein will serve; those at the bend of the elbow are usually most convenient. With a good syringe there is usually little difficulty in obtaining 5 or 10 cc. of blood, which is distributed among several flasks of bouillon, 1 or 2 cc. of blood to 200 or more cc. of medium. The procedure, while somewhat unpleasant to the patient, is seldom seriously objected to. Recently it has been advocated, especially by Conradi, to add a small amount of blood to a mixture of ox bile with peptone and glycerin, and make a preliminary incubation of this for sixteen hours, then transplant to lactose litmus agar. By this method diagnosis can be obtained in about 36 hours, and practically all cases are said to give positive results. While blood cultures are not intended for routine work, they should be resorted to in atypical cases, and where early diagnosis is urgently desired.

The serum reaction is of distinctly less value than is the blood culture in several respects; it appears later in the course of the disease; in a few cases it apparently never appears, and it is sometimes positive in conditions other than typhoid fever. Nevertheless, as it is more convenient of application and quicker in its results, it is much more commonly resorted to. It is occasionally positive as early as the third day; frequently by the end of the first week; very commonly during the second week; in a few cases it is delayed until convalescence or even until relapse. The results of many thousands of cases show that the Widal reaction is present during some stage of the disease in about 95 per cent of all cases. A few, but probably not all of the remaining 5 per cent., are possibly instances of paratyphoid fever. This failure of the test in a few cases is one of its disadvantages. It has the added disadvantage of being at times positive in diseases other than typhoid. Certain cases of jaundice, including the so-called Weil's disease, give positive results at proper dilutions. Many of these cases, however, are being looked upon, in fact are being proven, to be examples of typhoid infection of the biliary apparatus, so that the apparent disadvantage of the test in these cases disappeared. A few instances of acute miliary tuberculosis give positive

Widal reactions, the one condition in which differentiation from typhoid is often so difficult. A negative blood culture in such cases should have great weight. Occasionally other disease conditions will give a positive result, but the number is strikingly small when proper precautions are used. These precautions require mention. The dilution should be high, 1 to 40, or, better, 1 to 50. It is convenient and of no more trouble to make several dilutions, 1 to 10, 1 to 20 and 1 to 50. By observing the extent of the reaction at these graded dilutions, one may sometimes predict a positive result at a time when the higher dilution is not strictly positive. I place no importance on a 1 to 10 dilution alone; I think such a procedure should be dropped. The dilution of choice is 1 to 50, with a time limit of one hour. The typhoid culture should be fresh, not over 24 hours old, and the more virulent the better. We may judge somewhat of the virulence by the motility; the more virulent, the more motile. A control should always be observed. This point, I think, is not as a rule sufficiently insisted upon. A certain degree of clumping may occur spontaneously in cultures, and the extent of this must be known before a result can be properly interpreted. Bouillon cultures are generally used, though personally I prefer agar with water of condensation; the bacilli in this are usually more motile. A positive result should include cessation of motility and very general clumping. When properly performed, a positive or negative Widal reaction may be of very material aid in diagnosis, and should be resorted to in all cases. Positive findings, however, in view of their occasional occurrence in other diseases, must be correlated with clinical evidence. The interpretation of negative results is not so easy. It must be remembered that one or several negative Widal's does not exclude typhoid fever; that occasionally the reaction is much delayed or apparently may never develop, and that we may have to deal with a case of paratyphoid fever. Yet I think we may say that a diagnosis of typhoid fever with negative Widal reaction is very doubtful, unless confirmed by some other positive finding. The introduction of the Ficker diagnosticum, that is, the use of killed cultures and a macroscopic as opposed to the usual microscopic method, has placed the serum reaction within the reach of all practitioners, and there is now no reason why it should not be used in every case.

The leucocyte count frequently gives material assistance in diagnosis, both in a negative and positive way. Leucopenia is the rule in typhoid; we expect counts of 5,000 or under. The other febrile conditions associated with a normal or diminished count are few; most forms of tuberculosis, measles, malaria, influenza and the initial stage of smallpox includes the important ones. Except the first, these are usually easily excluded so that the finding of a leucopenia in a suspicious case is good confirmatory evidence. On the other hand, the presence of a distinct leucocytosis almost surely excludes typhoid fever unless complicated, and this seldom happens in the early stages. I think this fact deserves especial emphasis; herein lies one great value of the

leucocyte count. It is so rare to find an uncomplicated typhoid with a count of over 10,000 that, as I say, we can almost surely exclude it in the presence of a distinct leucocytosis. The differential count does not help us much; the results may be simulated by other conditions; still the finding of an increase in large mononuclear forms with a practical absence of eosinophiles is of some value.

The urine does not give us any very material assistance in diagnosis. The diazo reaction, while present in a large percentage of cases, is found in so many other febrile conditions, that its value is considerably diminished; yet taken in conjunction with other positive findings, we may place some reliance upon it. I should like to emphasize the importance of an accurate mixture of the two diazo reagents in performing the test; forty parts of the sulphanilic acid solution to one of the sodium nitrite. Neglect to observe this point will possibly account for some negative reactions in well marked instances of typhoid. The finding of typhoid bacilli in the urine can seldom be of diagnostic importance, as the cases are usually well advanced by the time the organisms are detected. Similarly the cultivation of the bacilli from the rose spots is of no help, as the spots themselves, with the other findings, give us the diagnosis.

The cultivation of the bacilli from the stools is occasionally resorted to for diagnosis. The method, however, requires special culture medium and very considerable bacteriological skill, and is decidedly inferior to blood cultures. Moreover, it is not applicable to early diagnosis.

Puncture of the spleen is not to be recommended for the diagnosis of typhoid fever. Better results without the attendant danger are to be obtained by blood culture.

These, then, are the principal laboratory methods that help us in making or make for us the diagnosis of typhoid fever. In view of the great assistance that some of them render, I think they should be used even more generally than they are.

I have said nothing in this paper of the value of laboratory findings in the diagnosis of complications, the alterations of the leucocyte count, the detection of occult blood in the faces, etc. These subjects are hardly embraced within the scope of the paper.

THE TREATMENT OF A FEW DISEASES OF THE RECTUM BY THE GENERAL PRACTITIONER.*

By IRA C. YOUNG, M. D., St. Louis, Mo.

During the past ten or fifteen years the attention of the profession and the laity has been so constantly directed to treatment by specialists, in every conceivable department of medicine and surgery, that I felt it would be a change to think of something for the general practitioner; and I shall attempt to justify his presence among us by claiming he can still be of service in the treatment of a few diseases of the rectum. I say a few of the diseases of the rectum, not that I feel the general

practitioner's field is limited to those I shall mention, but because it is impossible, in a paper of this kind, to do more than superficially consider a few of the diseases of that important organ.

When a patient consults you complaining of trouble with his rectum, do not accept his ready-made diagnosis that he has a bad case of piles, which he will almost invariably give you, or attempt to make a diagnosis from the subjective symptoms and prescribe one of the many ointments or suppositories recommended in the text books, which may be good in their place, but in all probability not the proper treatment for the patient before you. Insist upon a thorough ocular and digital examination of the anus and rectum before attempting to prescribe. If the patient will not permit an examination, tell him neither of you can afford to have you treat him blindly, and positively and politely refuse to treat him until he will submit to an examination. You will thus maintain your own self-respect, and the confidence of the patient.

It would be just as scientific, in most instances, to prescribe a "pile ointment" for a patient for no other reason than that he is a merchant, as it would be to prescribe a "pile ointment" for a patient because he says he has a bad case of piles, or tells you he suffers severe pain in the rectum or anus either continuously or during or after stool.

No symptoms are of any value in making a diagnosis in diseases of the rectum or anus, unless a careful local examination of the parts is made. To make such an examination, place the patient in Simm's position, on a lounge or table, in a good light, separate the buttocks and carefully inspect the anus; if the patient suffers from fissure, external hemorrhoids, prolapsed internal hemorrhoids, prolapsus, fistula with an external opening, or pruritus, you will readily make a diagnosis which will most probably be correct, as far as it goes; but don't stop with your examination for you will frequently find your patient has some trouble with the anal or rectal canal, which perhaps has an etiological relationship with what you have already found, which it is your duty to find, and which must be properly treated before the patient can be cured.

Now lubricate your finger with vaseline or cold cream, paying particular attention to filling in the crease about the nail, and introduce it into the rectum; thoroughly palpate everything within reach, including the prostate in the male, and the cervix, uterus, tubes and ovaries in the female; with the finger, after a little experience, you will readily recognize an ulcer, internal hemorrhoids, fistula, polypus or stricture.

After learning all you can through an examination with the finger, throw a little oil into the rectum and take a rectal speculum, Cook's, Kelsey's, O'Neil's, Brinkerhoff's, Kelly's, or a small conical one, sterilize it by boiling, lubricate it, and slowly introduce it into the rectum, giving the muscles time to relax, remembering that all movements about the rectum must be easy and gentle to prevent spasmodic contraction of the sphincter. Never use a cold speculum. With the speculum you will verify the

* Read before the Nevada State Medical Association.

diagnosis made with your finger and often get additional information necessary for a proper and complete diagnosis. You will now have made a correct diagnosis, no matter what the patient's condition may be, and have needed only one special instrument, viz., a rectal speculum, which every up-to-date general practitioner has in his armamentarium.

Suppose our patient is suffering from a fissure, or irritable ulcer, as it is often called, what shall we do for its relief? There are three recognized ways of treating fissure of the anus: one is to treat an ulcer here as you would elsewhere by simple stimulating dressings of charpie, covered with unguentum hydrargyri, balsam of Perue, pure ichthyol, as recommended by my friend Dr. Emory Lanphear, of St. Louis, or by the application of pure carbolic acid; without the use of a speculum, if the fissure can be completely exposed to view; if not, with a speculum. Use a small speculum, as the sphincters are very irritable. Before inserting the speculum cocaineize the parts by the application of a ten per cent solution applied on cotton; insert the speculum, well oiled, and apply the pure acid with a probe tipped with cotton, drawing it through the fissure several times until it has turned white. Two or three applications of the acid will usually suffice, after which the simple treatment with stimulating dressing, above mentioned, will hasten the cure.

Another and better method is to insert a small speculum, as above described, bathe the fissure with a ten per cent solution of cocaine, inject a few drops of a weaker solution of cocaine, directly under the fissure, till all sensation is abolished, incise the sphincter sufficiently to put at rest its muscular fibers which underlie the ulcer, and apply the simple stimulating dressings above mentioned.

The third and best method of treating fissure, is to rapidly divulse the sphincter with either the fingers or mechanical dilators, under a general anesthetic until the fibers just begin to give way; this puts the muscle at rest and the ulcer invariably heals. Ether, chloroform or nitrous oxide gas may be used as a general anesthetic in these cases. Nitrous oxide is preferable for the reason that it is absolutely safe, meets every requirement, and after its administration, the patient can go about his business at once. As a rule patients do not fear or object to taking "gas" as they do chloroform or ether, because they are more or less familiar with it from its frequent use in dentistry. Hot cotton compresses should be firmly applied to the anus for about fifteen minutes after divulsion.

Should the patient suffer from internal hemorrhoids or polypi, in addition to fissure, the divulsion of the sphincter necessary for the treatment of those conditions cures the fissure, and the removal of those conditions must be done before the fissure can be cured. I can see no reason why the general practitioner should hesitate or fail in the treatment of uncomplicated fissure.

Ischiorectal abscess. I mention ischiorectal abscess simply to emphasize the importance of immediate incision, which will provide for drainage, the

cut radiating from the anus like the spoke of a wheel, after which the cavity should be cleaned and packed with iodoform gauze, and to call attention to it as being the etiological factor in fistula in ano. I take it for granted that every general practitioner treats these cases in this way. Why shouldn't he? The specialist can do no more, and the patient should not be allowed to remain in pain, with the pathological process advancing, waiting for a specialist.

Fistula. Unfortunately, fistula, while not painful, as a rule, often severely tries the skill and ingenuity of the most expert rectal surgeon, especially when composed of many branching sinuses; but fortunately the great majority of them are not of this variety and many yield to very simple treatment. The most important part of the treatment of fistula is prophylactic, which is prompt treatment of the abscess, which always precedes, and will surely cause a fistula if not properly treated.

The ideal treatment for fistula is to lay open all the fistulous tracts with the knife on a grooved director, after dilating the sphincter, as described in all the standard text-books, curette out all diseased tissue with a sharp curette and trim the edges of the wound. In most cases the general practitioner can do this as well as the specialist, if he will only keep a cool head and try.

Failures must often result either from not finding all the sinuses or not finding the full extent of some of them. When there are no branch sinuses and the tract is a short, superficial one, terminating between the sphincters, we may be able to do the operation under cocaine or nitrous oxide anesthesia.

But many patients will not submit to a general anesthetic, such as is usually necessary for an operation for fistula. Shall we leave them to suffer because of their fear, which we know is, to a slight degree at least, well founded; and to fall into the hands of some quack who may cure them by simpler means, which we might ourselves have done?

I would suggest in such cases the injection of tincture of iodine, pure carbolic acid, or a solution of silver nitrate, 60 grains to the ounce, as may seem best indicated, after the fistulous canal has been thoroughly syringed with peroxide of hydrogen, twice a week. An occasional irrigation with a 1-1000 solution of bichloride of mercury will aid in the treatment. Also, keep the canal lightly packed with a strip of iodoform gauze.

I remember one of our most distinguished rectal surgeons, speaking of a patient with fistula who had been operated upon several times with the knife in the hand of a very competent general surgeon, without success, which was cured by two injections of tincture of iodine. Think of the reputation and dollars a quack would have made with such a case to advertise and refer to.

Mathews, of Louisville, has devised a little instrument called a fistulatome, made on the same principle as a urethrotome, which he inserts to the bottom of the fistulous canal and draws out after opening the blades in such a manner as to com-

pletely divide the infiltrated tissues down to sound tissue on two sides of the canal; as a preliminary step, he dilates the external opening with a laminara tent, which provides for good drainage; this instrument is undoubtedly a most valuable one, and the method simple, painless, or practically so, easy of application, and will give excellent results in a great many cases. Personally I do not like the ligature method of treating fistula; but we should not forget its value in the absence of something better; many able practitioners speak highly of it. Careful attention to cleanliness and drainage, alone, will result in cures in some cases of simple fistula.

Polypi. If near the margin of the anus, cut them off with the knife or scissors or use the snare. If higher up in the rectum, ligate the pedicle and cut them off. Should you mistake a polypus for an internal hemorrhoid and use the injection treatment, to be discussed later, you will do no harm but will most probably cure the case.

External hemorrhoids. We recognize two varieties of external hemorrhoids; the skin tags or cutaneous excrescences and the cluot of thrombotic; a distinction which is important to remember as the treatment differs according to variety. I have never been able to get any satisfaction from palliative treatment; neither do I believe in waiting for the inflammation to subside before operating. In my experience the pain following operation is not as great as the pain of the inflammatory process; and the patient will be well and completely relieved of his trouble in less time by operation than it will take to relieve inflammation by palliative treatment. All concede that with palliative treatment recurrence is certain. The pain from inflamed external hemorrhoids is so intense that patients will readily consent to the operative measures necessary, if we ourselves do not frighten them by using the word "operation" with too great emphasis.

In the cutaneous variety, throw one-quarter to one-half grain of cocaine under it, wait five or ten minutes, catch the tumor at its base with a pair of pronged forceps, draw it out firmly, and with the knife divide the skin all around it up to the mucous membrane, then tie a stout silk ligature tightly around its base and cut off the tumor close to the thread. In the thrombotic variety, throw cocaine under it and lift it up with pronged forceps, as in the other variety, and completely excise the tumor. The wound will heal quickly, and it is needless to say, the trouble is eradicated. If you only slit them open and express the clot, you will frequently find the redundant skin along the margin of the wound will give both you and the patient annoyance.

Internal hemorrhoids. Of all the varieties of internal hemorrhoids which have been discussed, perhaps less has been said of the capillary than any other, though they cause sudden and severe hemorrhages demanding immediate treatment more often than any other variety. They are little, soft, spongy masses situated on the mucous membrane, often so small that they are difficult to find except for the flow of blood from them. We rarely see them until called on account of the severe bleeding. Such

cases should be treated by dilating the sphincters and applying the cautery, or by catching the little mass with a pair of forceps and tying it off with a stout silk ligature.

All other varieties of internal hemorrhoids may be treated in the same manner, as you may prefer, either with the ligature, clamp and cautery or by the injection of a strong solution of carbolic acid.

The ligature, after the method of Allingham, with which you are all familiar, is the favorite method with most general surgeons and rectal specialists in all cases in which the patient will consent to general anesthesia with chloroform or ether; but we again meet a certain number of patients who cannot, or will not, take ether or chloroform. In such cases, and I believe in all cases, we may with greater satisfaction both to ourselves and to our patient, use the injection treatment. I am aware that this method has been most severely condemned as being the method of the quack, as being unsurgical, as being dangerous and as being almost everything else than a proper treatment; but to my mind the strongest proof of its value and safety lies in the fact that it has been so very extensively used by the unscientific quack with a record of so many cures and so few bad results. Had the method been born in the light of present aseptic and antiseptic methods, even those few bad results would have been minimized. To get results with this method we must recognize it as a scientific, surgical treatment and devote that same care to every detail of the technic that we would were we going to do a laparotomy.

The first step in the technic is to divulse the sphincters under nitrous oxide; then apply hot cotton compresses to the anus for ten or fifteen minutes; let the patient rest for three or four days until the soreness of this operation has subsided; he will be much more comfortable after divulsion; you need not fear pain, hemorrhage, strangulation or sloughing as complications, if you divulse; and can easily reach the pile tumors without discomfort to your patient when ready to begin the injections. When the patient returns for treatment, have him lie in Simm's position on the side opposite that to which the pile you are going to inject is attached; gravity will then aid the flow of the fluid down into the pile tumor.

Wash the anal skin with soap and water, follow this with alcohol, then with 1-2000 solution bichloride of mercury. Introduce a small Brinkerhoff's or Martin's conical speculum, swab the surface of the piles with one per cent solution of lysol, or other antiseptic, as you may prefer, and select the largest hemorrhoid for treatment. Then inject from three to ten minims of a fifty per cent solution of pure carbolic acid crystals, liquefied by heat, in purified sperm oil, into the center of the pile; the quantity of the fluid used depending upon the size of the tumor; inject drop by drop until the tumor turns grayish, using a long needle made for that purpose, or an extension barrel on an ordinary hypodermic syringe. Always sterilize your syringe and needle by boiling before using them. Wait a few minutes

before withdrawing the needle after sufficient fluid has been injected.

Insert into the rectum a suppository of ichthylol 5 m. Have the patient insert one of the suppositories after the morning stool and on retiring at night. Inject only one pile at a treatment and make treatments from three to seven days apart; also see that the patient's bowels move every day. From three to twelve injections usually result in a radical cure.

The only objection I have found to this method of treatment is the length of time necessary to cure. But on the other hand, the patient is not detained from business, does not suffer the pain which always follows all other methods, and to his mind is not subjected to an operation, which is quite a factor with him. Neither have I ever met any unpleasant complications or sequela; I attribute this to the preliminary divulsion, proper attention to antisepsis and the use of a strong solution of the acid, at least, fifty per cent; were I to change my solution at all I would use a stronger rather than a weaker one.

REPORTS OF FOCAL-OPERATIONS IN HIP-JOINT TUBERCULOSIS—A DISCUSSION FINISHED.*

By HARRY M. SHERMAN, A. M., M. D., San Francisco.

When Dr. Huntington read his paper before this Society, describing and discussing his three operations of tunneling the neck of the femur to reach a tuberculous focus in the femoral neck or head, all of which had been successful, I was invited to open the discussion.

There was more to say than I could get into the allotted five minutes, and I used the time in discussing the term "hip-joint disease" and the questions of the pathology of the cases reported. I expressed the opinion that the term "hip-joint disease" always had meant and did still mean "tuberculosis of the hip-joint"—that other forms of chronic infection or inflammation of the hip-joint had distinctive titles, as osteoarthritis, arthritis deformans, senile coxitis and so on;—in brief, that when one said that a child had hip-joint disease one always thought of that child as having hip-joint tuberculosis. This idea chanced to be at variance with Dr. Huntington's concept and did not agree with Lovett's concept, but it is, I still think, the proper idea to hold.

As regards the pathology, I held that the first two of Dr. Huntington's cases were not cases of tuberculosis, either in their onset, clinical histories or end results, and the third case was, quite surely, also not tuberculosis, even though it had been considered such by those in attendance on it, for the end result was not in keeping with the tuberculosis idea. I have read the paper since it has been published and am still of the same opinion as regards these cases.

In that discussion I had gotten to the point of

citing some cases of my own of this same operation, when I was notified that I had used up all my time and I had to stop. It would have been better if I had been able to present this paper shortly after that meeting, when the matter was fresh in the minds of all present, but I could not write it immediately and since April we have all been doing that which we had to do, not necessarily that which we wanted to do. But my interest in the subject is too great to permit me to let it rest where it now is without finishing my report, and that is why I open it again tonight.

I do not believe that there has ever been a surgeon who had to treat few or many patients suffering with skeletal or joint tuberculosis who did not search for a radical plan of procedure, some way to shorten the treatment and lessen the destructive action of the infection. I have been constantly caring for these patients ever since I was graduated in medicine in 1880; but it was not until about 1891 or 1892 that I had the case presented that gave me the first opportunity to do the identical operation that Dr. Huntington spoke of. Now, I was not the originator of the operation, in general, nor in particular. Macnamara's case I knew of, and also Poore's series, and I called Dr. Huntington's attention to the writings of both of these men.

However, in 1891 or 1892, a little girl was brought to me with a very painful hip, and I made a clinical diagnosis of tuberculous osteitis in the head or neck of the femur. The child had been limping for about a year, but three months before coming to me an acute stage had supervened and she had suffered much. No apparatus that I could put on her had any effect toward lessening her pain, and so I sent her to the hospital and trephined the neck of the femur to endeavor to reach and remove the infected bone, with the definite idea of removing the disease. If I failed to do this I was confident I could at least relieve tension and stop the pain which was the paramount symptom of the case. I failed to find a definite focus of tuberculosis. I did stop the pain, but that was all; for the child, after a brief period of improvement, suffered a relapse and I was obliged to do a resection of the hip, in doing which I found the joint affected and full of pus and a perforation in the floor of the acetabulum with a small abscess inside the pelvis. The probability is that there were even more tuberculous lesions deeper yet, for the child died the night after the last operation.

The clinical symptoms had led me to exclude invasion of the articulation, for the range of permitted motion, even in the face of the pain, was greater than one could associate with the idea of a synovial and articular tuberculosis; and yet the operation of excision showed that my estimate had been wrong, the joint had been infected and that the case had been not at all suitable for the focal operation. The full history of this child was in my office at the time it was burned, and I am now writing up the case from notes that I had made for

*Read before the San Francisco County Medical Society.

the purpose of the discussion of Dr. Huntington's paper.

There was another girl at about that time, twelve or thirteen years old, who had had a slowly progressive tuberculosis of the femoral head or neck. Treatment by apparatus accomplished nothing, and so, as I thought I could here also exclude articular invasion, I submitted her to the same focal operation. The operation was done in September, 1892, about fourteen years ago. The head and neck of the femur were both excavated, leaving only the cortex of the neck and the cortex and cartilage of the head. The wound filled with flabby granulations, but would not heal. In August, 1893, I scraped it all out again, and again in the following month, and still again in February, 1894. After that the wound healed, and in August, 1894, she was beginning to develop motion in the joint; in November, 1894, she began to use the limb some, and I made a note in her history "apparently well." This girl's history, too, was burned in my office, and I am now again quoting notes made from it for the purpose of the discussion which I never finished.

The joint remained well for a year and then the wound reopened; in November, 1895, I again curetted the tuberculous tissue from the sinus, but the wound would not close and in February, 1896, I excised the joint, which had become infected, and found perforation of the acetabulum and an intrapelvic abscess. The girl—by then almost a young woman—very gradually recovered, but the intrapelvic abscess opened into the rectum in spite of having outside drainage, and about a year ago I met her in the cars and she told me that she still had a sinus leading from the hip-excision scar into the rectum, though otherwise she was well. This, you can see, was real tuberculosis.

These two cases showed me very plainly that only the exceptional case of hip-joint tuberculosis would be amenable to a focal operation, and I set about the task of finding one. I ask you to believe that not a single new patient with hip-joint tuberculosis came to me without my thinking of this possibility, and after I had provided myself with an X-ray apparatus, all of this class of patients were radiographed with the very object in view of settling this particular question.

In February, 1904, after Dr. Huntington's first case, and after I had seen it and talked it over with him, a little girl, three or four years old, was led, hip-limping, into the office. She had a fair range of motion in the affected hip, more than I could associate with an intra-articular lesion, and the radiogram showed a definite light spot in the shadow of the neck, in the diaphysis, and extraepiphyseal. I asked Dr. Huntington to see this child, and he agreed with me that it was a suitable case for the focal operation. He was present when I operated. Now, I believe this operation should be done in the plainest possible view of the operator, and so I wore an electric head-light and cut away, with a long-handled small curette, only such bone as I had seen

or was able to see and to judge its texture. Of course, this meant intermittent sponging and operating, but it can be done with a little patience. Up close to the femoral head I saw that I had opened into an abscess. It occupied exactly the place in the neck indicated by the dark spot on the radiogram. I cleaned out the tuberculous detritus and, exploring deeper, found that the abscess had perforated the cortex, invaded the joint, had even perforated the capsule, and made a little extracapsular collection in front of the joint. I cleaned this all out, swabbed it with carbolic acid and alcohol, washed these out with salt solution, and sutured the periosteum, deep and superficial fascia and the skin, *leaving the cavity in the bone full of the salt solution*. The leg was then put in a plaster-of-paris spica.

The wound healed and has remained healed; the abscess refilled and then receded; the case has followed just the course it would have had I not touched the child with knife, trephine or curette.

A report from the pathologist of the Children's Hospital, Dr. Rachel Ash, told me that a guinea pig injected in the peritoneum with the pus from the abscess of this child, developed tuberculosis of the peritoneum, mesenteric glands, liver and spleen. The child is doing very well but is still in a plaster-of-paris spica, and does not use the affected limb. This, too, is a case of real tuberculosis and I am again quoting notes made from the clinical history, which was burned in my office.

Still later, in the present year and since the paper and discussion before this Society, a little girl was sent me by Dr. Charles A. Clinton of this city, who had the ordinary clinical symptoms of a beginning hip-joint tuberculosis and whose radiogram showed thinning of the bone in the upper part of the neck near the head. On the same argument, based on the same facts, she was subjected to the same operation. On perforating the cortex I found the cancellous tissue of the *distal* part of the neck very soft and easily removed. As I got deeper, the bone got denser and harder, and so I stopped before I reached the epiphyseal cartilage. *I filled the cavity with salt solution* and sutured the periosteum, fascia and skin and put the limb in a plaster-of-paris spica. The wound healed well and the child was sent home after a fortnight in the hospital. Within a week or ten days she developed a fever and then had symptoms of intra-abdominal infection. These were so prominent that, although my belief was that her condition was "la grippe" with a pneumonic infection, I could not ignore the abdominal evidence and so a brief exploration was made which showed an intact peritoneum and intestine. The symptoms persisted and the child died. I was permitted to examine my hip operation wound. It had healed. The cavity in the bone was filled with firm fibrous tissue; the bone showed no foci other than the one I had removed, in the base of the neck. The articulation was intact.

The report from the pathologist at the Children's Hospital, Dr. Rachel Ash, showed that guinea pigs,

injected with an emulsion made from the rarified and congested cancellous tissue removed by me, developed tuberculosis as the others had done. This, too, was a real tuberculosis, but this child should have recovered, so far as her hip was concerned, and I imagine she would have done so had she not developed the pneumonia, with the abdominal symptoms, in the course of her "grippe." The pathological specimen of this case was burned in my office.

Later yet, since the fire, a boy was sent to me from a neighboring State with a hip-joint tuberculosis of but brief duration. The pain-symptoms had developed but a fortnight before he came to me, and up to within a short time of their development he had been an active schoolboy with much more play than study in him. Here again the amount of motion permitted was incompatible with the idea of an intra-articular lesion, and pressure over the joint and femoral head gave no pain, while pressure over the base of the neck and trochanter caused outcry. On the other hand, the radiogram showed broken and ragged shadows of the head and the acetabulum. In this predicament I decided to do an arthrotomy and if I found the joint intact to close it and at once do a focal operation in the neck. The arthrotomy disclosed a tuberculous panarthrititis, to my bitter disappointment. I washed out the debris, closed the wound anatomically, put him in a plaster-of-paris spica and sent him home to his local surgeon.

No pathological examination of the tissue from this joint was made, for the cheesy pus, the flabby, pale, edematous granulations and the exfoliated articular cartilage told their own story.

During these fourteen years since my first operation, I have done a good number of early operations on tuberculous foci, when I could locate them, and with varying success. I have found but three cases in which I could consistently see my way to attack a focus in the femoral head and neck, and during that time I have seen probably as much of this form of tuberculosis as any other man in this city. Of these three, but one could have been benefited by the operation, and an evil fate robbed her of the benefit.

In each one of these cases, except the one with possibilities, I operated too late to save the articulation; in cases one and three of tonight's series the joint was quite surely infected before I operated. In case two, the joint was probably intact at the time of the first operation, but after healing of the bone wound there was recrudescence of the tuberculosis, the wound reopened and later perforated into the joint. Here the tuberculosis was so disseminated through the osseous tissue of the head and neck that I quite surely left some of it behind, in spite of my efforts to remove it all. I feel confident that all will agree that, to give any chance of success, this operation must be done before perforation of the cortex or cartilage, and that all tuberculous tissue must be removed. If the latter is not accomplished recrudescence, or perhaps even continuation of the process without having been interrupted at all by

the operation, is most likely. An early diagnosis will, perhaps, enable one to anticipate perforation into the joint; nothing but extensive removal of the walls of the abscess or of the bone around the focus will insure the practically complete removal of the infected tissue. In fact, I believe that the removal of tuberculous tissue in toto, without an actual infection of the new wound, is but very rarely accomplished.

Naturally, I have tried to formulate, in my own mind, the symptom-complex which would indicate the suitable case and exclude the unsuitable ones. You have noticed that I have assumed that a certain freedom of motion in the joint might be taken as excluding invasion of the articulation itself. In four of these reported cases I was in error on this point. In one case, the last reported, a joint which inspection by an arthrotomy showed to be the seat of a tuberculous panarthrititis, permitted an amount of motion which, according to my concept of the conditions and their effects, should have been impossible. In another—the third reported—the child walked into my office, the joint permitted considerable easy and painless motion, and yet at that very time, as was disclosed by the findings at the operation, there was a perforation of the cortex, the intraosseous abscess communicated with the joint cavity, and there was a tuberculous synovitis and a perforated capsule with an extra-articular collection of tuberculous pus. Very evidently my idea of the amount of motion some of these infected joints should permit, is a wrong one and must be revised.

So far as I can see, the revision must be done by the X-ray. Now, the X-ray itself, in children of the usual hip-joint tuberculosis age, is misleading; for the femoral head is often represented, in the radiogram, by an isolated, ossific nucleus, and there is quite a gap between it and the ossified part of the diaphysis which constitutes the neck. It is only in children in whom the processes of ossification have gone much further, that the radiogram can be of use. In these I believe that a broken, wavy, irregular outline of the shadow of the femoral head, or of the acetabulum, indicates articular implication and excludes the possibility of help by an operation directed against an intraosseous lesion. If the shadow of these parts is clear, clean-cut, as on the intact side; if the other elements of the symptom-complex are a limp and a little swelling, or thickening and edema of the panniculus adiposus, fairly definite trochanteric tenderness, but no tenderness over the joint or femoral head, irregular and not severe pain, and an ample range of passive motion, I believe the possibility of help from an operation directed against the focus should be very carefully considered and discussed. But this must always be done with one thought kept clearly in mind;—a tuberculous bone lesion is practically always more serious and more extensive than the outside evidences lead one to believe; it is certain to be so if the observer is an optimist; it may be that it will be most clearly diagnosed by the pessimist; and the

man who is neither optimist nor pessimist must study his cases very closely and reason very accurately to get an approximately clear idea of the real condition.

One word more. I first did the particular operation under discussion tonight, fourteen or fifteen years ago. I have been looking all that time for cases suitable for the operation. I have found five such and on doing the operation on these patients, but one showed that it could have been a success. There is very little credit for me in all this; I can only claim the credit of being persistent, for I am still looking for the suitable case.

DEMONSTRATION OF A PATIENT
SHOWING THE EFFECT OF THE X-
RAY ON THE EPITHELIAL STRUC-
TURES OF THE SKIN.*

By DOUGLASS W. MONTGOMERY, M. D., San Fran-
cisco.

The patient, a man seventy-seven years of age, first consulted me about four years ago. He then suffered from a group of symptoms that has received the name of epitheliomatosis. These symptoms were particularly marked on the right side of the face, in front of the right ear and extending down on the neck. The whole surface in this region was crumbly, and there were numerous senile patches, which in two instances had developed into well-marked epitheliomas. These epitheliomas were treated with arsenic paste that caused an intense reaction; in addition, the whole side of the face was exposed to the X-ray for about fifteen sittings. I suppose it was a medium tube, placed at eight or nine inches from the surface, and gradually approached, during the last sittings, to four or five inches. This is all from memory, as the notes were lost in the fire. I remember, however, that a distinct reaction was got from the X-ray.

The patient called on me again December 11, 1906, suffering from senile patches of the nose, of the back of the hands, and of the left side of the face. In one situation, near the left angle of the jaw, an epithelioma had developed. This was cut out. Some of the senile patches are being treated with trichloracetic acid, and the left side of the face, the nose and the back of the hands are being exposed to the X-ray.

The point of great interest, however, is the condition of the right side of the face, where the epitheliomatosis was so developed four years ago, and which was then exposed to the X-ray.

The scars at the site of the former cancers are white, souple, and in every way of good character. The skin of the right side of the face and of the ear-shell has the yellow color incident to age, but it is smooth, pliable, and absolutely devoid of crusts, whereas it was before covered with crumbly crusts and senile patches, and presented the characteristic appearance of epitheliomatosis.

After the X-raying of four years ago, the hair fell out of the scalp adjacent to the right ear, and

also out of the beard of the right side of the face. The hair of the scalp has partially grown in, but that of the right side of the face has not returned; not even as downy hair. The bald skin is not atrophic, and looks much better, from a cosmetic point of view, than the skin of the rest of the face. A curious circumstance is its freedom from wrinkles, giving it the appearance of a retouched photograph.

It is interesting to note here the inhibitory effect the X-ray has permanently exercised on the hyperactivity that constituted the disease of the epithelial structures, both sebaceous and stratified, of this region. In the first place, it definitely stopped the growth of hair, which is an epithelial structure. Of course, the growth of hair is not so vigorous in old age as it is in youth, but this man had a good growth of beard, and the result can therefore be taken as of some value in indicating what can be done with the X-ray as a depilatory.

Then, again, the action of the X-ray on the sebaceous glands has been eminently satisfactory, as it seems to have stopped short at a point that allowed them still to secrete enough oil to render the surface normally unctuous. It may be, however, that the normal unctuousness of the skin in this case is not owing to secretion from the sebaceous glands at all, but from the sweat glands, which we know also secrete oil.

THE TREATMENT OF PYELITIS AND
URETERITIS BY URETHRAL CATHE-
TERIZATION AND LAVAGE.*

By GEORGE L. EATON, M. D., San Francisco.

It is with great pleasure that I bring before you this evening a subject that is greatly neglected, and even condemned by many, namely, the treatment of pyelitis and ureteritis by mechanical measures. For simplicity, I wish first to present for your consideration the etiology of pyelitis, and then take up the microscopical examination of the urine of the patients while under treatment. In reference to the etiology, we are confronted by two separate conditions; constitutional and local infection, and constitutional changes. I refer to cardiac, vascular and nervous, embodying the infectious diseases; namely, malaria, smallpox, septicemia, scarlet fever, diphtheria, syphilis, pneumonia, meningitis, etc.

The local infections are those of the kidney that follow infections of the genito-urinary organs, and are classed as ascending infection. The bladder, prostate gland, seminal vesicles, ureter, endometrium, vagina and rectum, when infected, are capable of producing an ascending ureteritis and pyelitis, which leads to graver kidney lesions if left uncared for. Now the question no doubt to you all is, how infection of the lower genito-urinary tracts, especially the prostate gland, seminal visicles, ureter, rectum, vagira, and uterus invades the ureters and pelvis of the kidney. This has long been a question in the minds of eminent pathologists, as to the source of invasion, whether by continuity of surface, blood current, or by the lymphatics.

*Read before the California Academy of Medicine. *Read before the Santa Clara Medical Society, Aug. 1906.

I wish to prove to you that this ascending infection is not accomplished entirely by the continuity of surface, as the uterus, vagina and rectum have no direct mucus attachment to the bladder or ureters, and the same will apply, in part, to the seminal vesicles and prostate gland. Regarding the blood, we can in rare instances receive an infection of the pelvis of the kidney by toxins and bacteria emanating from abscesses, malignant growths and tubercular, involvement of different organs, more especially of the prostate gland, seminal vesicles and rectum.

We now come, in my judgment, to the real mode of invasion, that being through the lymphatics. More especially, those of the submucosa of the bladder and ureters, as the following cases, the histories of which, I feel, will substantiate the above theory. I here present the history, urinary analysis and treatment of 23 cases of pyelitis and ureteritis collected during the past 18 months. Of the 23 cases, 8 were bilateral and 15 unilateral. Of those, 14 gave a history of having gonorrhea, 5 abortions, 1 malignancy and 3 tubercular. Those classed as gonorrheal, 10 were males and 5 females. In every male the prostate gland and seminal vesicles were examined and the expressed secretion collected for microscopical findings. The presence of pus, epithelia and fat globules were demonstrated, while in 3 of the above cases gonococci were present. Each case was subjected to ureteral catheterization and the urine collected was examined microscopically for pus, epithelia and bacteria.

Of the 10 cases, 7 had unilateral pyelitis and 3 bilateral. In only one case did I find the gonococcus, and that being one of the bilatereal cases with a ureteritis accompanying the pyelitis. The treatment consisted of passing the ureteral catheter every third or fourth day and about 5 c.c. of a 2% silbamin solution injected into the pelvis of the kidney.

The bladder, after the removal of the cystoscope and catheters was flushed with a 1% solution of silbamin as a precautionary measure against infection. All of the above made rapid improvement as shown by the disappearance of pus and epithelia, with the exception of one bilateral case which was of long standing and in conjunction had a large hydronephrosis. The four female cases classed as gonorrheal had chronic endometritis and cervicitis; in 2 gonococci were found in the cervical secretion, one of which, as determined by further examination, had a unilateral pyeloureteritis, together with a displaced kidney, while the other had a bilateral pyelitis and a pyelo-nephritis. The remaining two had had curetment performed for excessive uterine discharge. Upon urinary analysis, pus and degenerated pelvic and ureteral epithelium was found. Catheterization of the ureters proved that the right ureter and pelvis of one, and the left ureter and pelvis of the other were in a state of disease. All of these four cases were treated by an installation of a 2% silbamin solution through a ureteral catheter, and while the latter two mentioned only received two treatments each, and then discontinued, the first two

mentioned are at present under treatment and are making rapid progress toward recovery.

The 5 cases under the head of abortions gave history of infection at the time of aborting; nevertheless, in every case subinvolution and endometritis were present with more or less tenderness in the regions of the tubes and ovaries. Microscopical examinations were made of the uterine secretions, but nothing of importance was discovered; upon urinary analysis pus and epithelium from the ureters and pelvis of the kidney were discovered; upon ureteral catheterization, 3 of the above cases proved to have unilateral ureteropyelitis, while the remaining two had bilateral pyelitis.

The above mentioned cases were subjected to the routine treatment of ureteral and pelvic lavage and careful data kept of the catheterized urine, all of which has shown a marked improvement.

The case classed as malignant was one of cervicle carcinoma; the patient had had a hysterectomy performed two years previous. (The urine showed unmistakable signs of pyelitis, and upon double catheterization of the ureters a bilateral pyelonephritis was diagnosed; the right kidney exhibited signs of advanced disease owing to the numerous epithelial casts present; there was also a great amount of albumen and pus.) This case, like the former ones, was treated by lavage of the kidney pelvis, and is at present under treatment, which consists of injecting from 5 to 10 c.c. of an antiseptic solution every other day through the ureteral catheter. To my great surprise the casts and albumen have disappeared and the patient is improving remarkably.

The remaining 3 cases are classed as tubercular, 2 of which are in females who have had operations performed, one having had both tubes, both ovaries and several enlarged pelvic glands removed, all of which were tubercular, while the other woman had the right tube and ovary removed, together with the appendix; the ovary in this case being tubercular. In the male, notwithstanding the fact that no tubercle bacilli were found in the secretions of the seminal vesicles and prostate, there was unmistakable evidence present to warrant the case being classed as tubercular, only to be substantiated by a positive reaction from an injection of tuberculin (Koch's) and the presence of bacilli in the catheterized urine from the left kidney; no treatment.

The examination of the urine in the female cases showed tubercle bacilli, pus, albumen, and epithelium from the bladder, ureters and kidney pelvis, while upon ureteral catheterization a double pyelitis with a general tubercular infection of the mucous membrane was found to be present in one, while the other had only a tubercular ureter of the right side. The treatment of these two cases may seem to you a little severe, but it is surprising to know what strong solutions the mucous membrane of the kidney-pelvis and ureter will tolerate, as shown by the following: A saturated aqueous solution of creosote was instilled by the ureteral catheter, once weekly; in the meantime weak solutions of silbamin were used. In the former above-mentioned case, im-

mediate improvement was the result, as shown by the amelioration of symptoms, namely: frequent micturition without pain; temperature and night sweats ceasing, with the decline of the other symptoms. The urine was examined daily, with a perceptible diminution of pus and epithelia; until the time the patient ceased treatment there still remained a few tubercle bacilli.

In the second case of this series there was a tubercular infiltration that partly occluded the ureter about 3 c.c. from the visceral attachment that required dilatation by the ureteral bougie, followed by the instillation of a saturated aqueous solution of creosote once every 5 or 6 days; during the interval a mild irrigation of some antiseptic solution, principally silbamin, oxycyanid of mercury, or normal salt. Like the former case, immediate improvement was the result, as shown by the cessation of pain, frequent urination and a drop in p. m. temperature. The urine was examined before each treatment so as to note if there followed any improvement, and also to govern the strength of the solution to be used; at present all pus, epithelia and bacilli have disappeared, she having been under treatment since January 10, 1906. At that time she weighed 103 pounds; at present her weight is about the same, but she is free from all of her former symptoms. In recapitulating the mechanical treatment of pyelitis, pyelonephritis and ureteritis, I wish to emphasize the necessity for a careful examination of the urine previous to, and during the treatment; more especially the microscopical part of the examination, as it will give you more information, and at the same time help regulate the treatment.

COUNTY SOCIETIES.

SAN BERNARDINO COUNTY.

The regular meeting of the San Bernardino County Medical Society was held on January 23rd, 1907, in the Y. M. C. A. Building, Redlands, California, President Dr. D. S. Strong presiding. The minutes of the last meeting were read and approved. Immediately after the reading and approval of his report as secretary, Dr. H. Taylor tendered his resignation as secretary of the Society, and asked that it be acted upon at once. Dr. Burke moved that the resignation be accepted, which motion carried. Dr. Tyler then nominated Dr. A. M. Bennett of San Bernardino for secretary. There being no other nominations, Dr. Bennett was duly elected and installed secretary of the Society.

Communications were read from the State Medical Society relative to the next meeting of said State Medical Society, referring to the Anti-Vaccination Bill and calling attention to the postal deficit. Upon motion duly made and seconded, said communications were referred to a committee of three, consisting of Drs. Burke, Blyth and Taltavall. Motion carried.

Dr. Power read a very interesting paper on the

subject of "Ingestion of Water After Anesthesia." The subject was further discussed by Drs. Ide, Burke, Tyler, Hutchinson and Major Charles R. Duer of the English army in India.

Dr. Woods Hutchinson was elected delegate to the next State Medical Society, and Dr. W. P. Burke alternate. Dr. W. P. Burke was also instructed to prepare a paper to be read before the State Medical Society. Dr. W. H. Wilmot was voted an honorary member of the Society. The Society adjourned to meet in San Bernardino on the second Wednesday of February.

A. M. BENNETT, Secretary.

SANTA BARBARA COUNTY.

The Santa Barbara County Medical Society held its regular monthly meeting at the Arlington Hotel on January 14, 1907, at 8 p. m. It was called to order by the president, Dr. W. B. Cunnane, the secretary at his desk. Present: Drs. Barry, Rex, Brown, Conrad, Cunnane, Dial, Flint, Low, Stoddard, Newman, Morrey, Taylor and no visitors.

After the call to order the Society listened to the reading of the minutes of the preceding meeting (Dec. 10, 1906), which were adopted as read. The president called for the election of new officers for the year 1907. An animated election then took place, with the following results:

President, Charles S. Stoddard, M. D.; vice-president, Eugene A. Dial, M. D.; first vice-president-at-large, Wm. A. Rowell, Goleta; second vice-president-at-large, R. W. Brown, M. D., Santa Maria; secretary, Wm. T. Barry, M. D.; treasurer, David A. Conrad, M. D.

On motion the election of delegates to State Association was laid over.

Following the election of officers, Dr. W. H. Flint spoke upon the subject of "Medical Ethics;" Dr. C. S. Stoddard on "Fees and Collections," and Dr. Eugene A. Dial on the "Relations Between Physicians and Druggists." The Society also listened to the presentation by a collection agency of a systematic method of information and collection of which they approved by vote. On motion, the Censors were instructed to report on certain irregular practitioners at present operating in Santa Barbara.

* * *

The Santa Barbara County Medical Society met in regular monthly session at the Chamber of Commerce Monday, February 11, 1907, at 8 p. m. The meeting was called to order by President Dr. C. S. Stoddard, the secretary at his desk. Present: Drs. Barry, Rex, Brown, Conrad, Cunnane, Flint, Mansfield, Newman, Rowell, Stoddard, Bates. Visitors: Dr. H. P. Merriman, Prof. H. A. Adrian, Prof. A. E. Monteith, Principals Adams, George, Hawkenson; also Mrs. Farley and many of the grade teachers of city schools and the following members of the Board of Education: M. B. McDuffie, A. A. Poole, Louis Rinz and others.

The subject for the evening was "School Hygiene," and an effort—which proved entirely successful—was made to make the meeting a popular one. Prof. Adrian, city superintendent, with Prof. Monteith, principal of the High School, discussed fully with the physicians branches of school hygiene, including physical defects in pupils, sexual hygiene and bathing. After considerable discussion, the following resolution, proposed by Prof. Adrian, was unanimously adopted by the Society:

"Resolved, That provision should be made whereby all children entering the receiving classes, the Fifth Grade and the High School may have medical examination to determine physical defects, and the

remedial measures that may be necessary. And that a committee be appointed (by chair) to take the matter up."

The president appointed the following to serve on the committee: Prof. H. A. Adrian, chairman; Prof. A. E. Monteith, Drs. Flint, Conrad, Barry and Dial. This committee was instructed to report to a special meeting to be called by the president and held in the assembly room at the High School. After the acceptance of Dr. Benj. Bakewell's transfer card from the Alameda County Medical Society and the transaction of routine business, the Society adjourned.

WM. T. BARRY, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. Harry N. Cross Friday, January 25, 1907. Members present: Drs. A. W. Hoisholt, S. E. Latta, E. A. Arthur, J. P. Hull, W. W. Fitzgerald, F. P. Clark, Minerva Goodman, D. F. Ray, H. E. Sanderson, E. L. Blackmun, J. J. Tully, H. Smythe, H. N. Cross, S. W. R. Langdon and B. J. Powell.

The following resolution was passed, to take effect immediately: "Resolved, That the San Joaquin County Medical Society endorse the action of the State Society and the A. M. A. and agree to charge \$5 for all old line insurance company examinations. All members failing to comply with the resolution to be expelled."

The secretary was instructed to write to our representatives at the State Legislature and urge them to fight all proposed anti-vaccination laws, and that this Society suggests that we have a state farm to manufacture our own virus.

Dr. Cross entertained the Society with a paper on "Nostrums," etc. Dr. Cross spoke of the various nostrums on the market, condemning them very cordially. He also spoke of the milk supply of various cities and believed it was an essential thing that the health officer be some one thoroughly competent to examine the milk, dairies and cows, and be specially educated in this line. He also stated that he believed the wines that were placed on the market should receive attention and that when a doctor prescribed a tonic or other medicines containing wine he should feel that such wine was a pure article. Dr. Sanderson, in opening the discussion, commended a great many of the suggestions brought forth by Dr. Cross, and especially condemned the method of certain well known drug stores of advertising patent medicines and signing their names recommending the same. In support of this, Dr. Fred P. Clark reported a case, evidently poisoned by taking Doan's Kidney Remedy or some such quack medicine that was extensively advertised in this locality.

Dr. Ray stated that during his recent trip to the East he had become acquainted with some of the members of the Walker Gordon Company and that they desired to have a branch factory in California.

BARTON J. POWELL, Secretary.

PUBLICATIONS.

Surgery: Its Principles and Practice. By various authors.

Edited by W. W. KEEN, M.D., LL.D., Professor of Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol. 1. Price \$7.00 net. W. B. Saunders Co., Philadelphia and London. 1906.

That many voluminous treatises owe their existence to publishers' orders, is generally conceded. Hence the authors' not infrequent custom in assigning the work to anonymous assistants with a re-

quest that the text fit the publishers' specifications and collection of plates.

The present volume, the first of five, of 983 pages, with 258 illustrations and 17 colored plates, is due to the cooperation of thirteen eminent teachers, and marks a radical departure from the beaten paths of compilation. Hence, a number of contributions showing lucidity of exposition and in most instances completeness. In the first sixty pages of this great work on surgery, J. G. Mumford, of Boston, presents a series of brief but delightfully entertaining biographical sketches of the makers of surgery, from the temple of Cos to the Listerian age. The well-written pages devoted to the history of American surgery can not fail to arouse interest.

Chapter 2 on Surgical Physiology, is by George W. Crile, whose numerous contributions to experimental work have eminently fitted him to speak authoritatively on this border line subject. The study of blood pressure is dealt with in a simple and practical manner. In Chapter 3, J. C. DaCosta, Jr., considers the scope of hematology in surgery, avoiding reference to technical methods of blood examination and citing the findings in a series of surgical conditions. In Chapter 4, Ludvig Hektoen treats of Infection and Immunity. The pages on the sources and ways of infection are written in this eminent teacher's usual clear and convincing style.

Chapter 5, of forty-six pages, on inflammation, by Adami, is one of the best contributions to the present volume, and its equal is seldom found in general publications. Chapters 6, 7, 8, by Leonard Freeman, are devoted to the consideration of supuration, abscess, fistula, ulcerations, ulcers and gangrene.

Chapter 9, by F. C. Woodon, process of repair, covers too much space for a work on surgery and would not be considered complete in a work on pathology. The propriety of five pages of bibliography in this particular chapter is extremely questionable. The next five chapters are by Charles H. Frazier; thrombosis, embolism, erysipelas, tetanus, diseases caused by special infections, diseases derived directly from animals, insects and reptiles. Chapter 15, by E. A. Smith, deals with surgical infections in a very superficial and unmethodical manner.

Chapter 18, on Surgical Tuberculosis, by John Chalmers DaCosta, is a clear, broad and logical exposition of the subject. The supplementary pages on "tuberculosis of other tissues and organs" should be eliminated. The references to tuberculosis of the lung, liver, breast, intestine and kidney are incomplete and contain flagrant errors. Chapter 19 and 20, by Edward Martin, treat of chaneroid and syphilis. They are brief but intelligently and profusely illustrated. A more complete reference to the work of Metchnikoff and Roux on the prophylaxis of syphilis would not be out of place in this chapter.

Chapter 21, on tumors, by Bland Sutton, is beyond doubt the piece de resistance of the present volume. The classification, supplemented by numerous illustrations from English museums, will appeal to the surgeon. The cause and dissemination of cancer are discussed with scientific thoroughness. Especially interesting and complete is the part on teratomata and dermoids.

Chapter 22, on wounds and contusions, is altogether too brief. The author advocates the use of Michel's staples in closing wounds, but fails to describe the proper time and practical method for their removal. The twenty-three pages on shock and collapse, by Geo. Crile, summarize the knowledge acquired from clinical observation and experimentation to which the author has liberally contributed.

The pathologic physiology and the treatment of shock by the introduction of fluids into the circulation, are graphically outlined.

While it is obviously unjust to judge an encyclo-

pedic work from the perusal of its initiatory volume, one can not fail to be impressed with the special fitness of the three score and more collaborators chosen by the erudite teacher, surgeon and editor, W. W. Keen, and to note their genuine desire to produce a thoroughly complete and standard work. Were additional proof of the foregoing statement necessary, one might refer to the active participation of many of these collaborators in the International Congress of Surgery, to which the choice surgical minds of the world had been invited. Echoes of this memorable Congress are clearly discernible in numerous sections of Keen's system of surgery.

The International Medical Annual; a Year Book of Treatment and Practitioner's Index, 1906. E. B. Treat and Company, \$1.50 net.

This is the twenty-fourth issue of the Medical Annual. Its contents are conveniently arranged. The general practitioner will be fortified by consulting the book, and the specialist can not fail to be broadened by perusing it. It affords really an interesting survey of medicine and surgery.

The review of therapeutic progress during 1905 begins with the statement that there has been no progress during that year, but much experience in the use of many drugs will be found recorded there. The communications of the sober-minded and the enthusiastic are concisely and impartially, but not uncritically, reproduced. He who may be toiling to support a failing heart is here apprised that "cactus grandiflorus is in every way superior to digitalis." Another whose resources are nigh to exhaustion will take heart when he reads that "Couch has found formic acid a marvelous remedy in rheumatic conditions and in arthritis deformans." The treatment of chorea has hitherto been efficacious and not unpleasant, but the man who would treat it with emetics is not allowed to languish in obscurity. Much interesting literature on new preparations such as digalen, alypin, iothion and on the administration of less recent ones like adrenalin and stovain, is excerpted in a practical manner. Lumbar puncture, the intravenous injection of oxygen, organotherapy and the X-rays are carefully considered. On surgical subjects, perhaps the most interesting contributions to the book are those by A. W. Mayo Robson; to his discussions of appendicitis and the surgery of the stomach neither physician nor surgeon will be indifferent. The advancement of research on syphilitic infection is recorded up to the time of the successful transmission of the disease to apes, but the publication preceded the discovery of the spirochaeta pallida. These specimens may suffice to give some idea of the diversity of the matter contained in the book. From the list of subjects which follow one another in alphabetical order and are treated by very competent writers, nothing of importance seems to have been omitted between acne and yaws.

An Introduction to Physiology. By William Townsend Porter, M. D., Associate Professor of Physiology in the Harvard Medical School. Philadelphia and London: J. B. Lippincott & Co., 1906.

The present volume, says the author in the preface to the second edition, is a collection of fundamental experiments in several fields, printed in an abbreviated form for the temporary use of Harvard medical students and other interested persons. From another part of the preface we learn that in pursuance of the "Concentration" system the Harvard medical student is able to devote his second half-year entirely to physiology and biological chemistry. If this young man, highly favored by so capable guidance in his observation and experiments as may be found in the work before us, avail him-

self of his opportunities, he might excite the envy of the many who have had to acquire their knowledge of physiology in a less practical way—an envy, however, probably often tempered by the consideration that many have learned and few know.

After the General Properties of Living Tissues have been elucidated by remarks and experiments on the electrical, chemical and mechanical stimulation of muscle and nerve, the Income of Energy is illustrated by work on fermentation, blood and respiration, and under the Outgo of Energy heat, electromotive phenomena, the Central Nervous System, physiological Optics and other subjects are considered. The apparatus required, the mode of conducting the experiment, the observations to be made and the conclusions to be derived are clearly set forth. Theory is not neglected. The student is prepared by the account of the motor points, blood-counts, the use of the ophthalmoscope for his subsequent clinical activity. The book does all that a book of the kind can do. He who follows its precepts will come close to nature and get his facts at first hand.

The Practitioner's Medical Dictionary. An illustrated dictionary of medicine and allied subjects, including all the words and phrases generally used in medicine, with their proper pronunciation, derivation and definition. By George M. Gould, A. M., M. D. With 338 illustrations. Octavo; xvi plus 1043 pages. Flexible leather, gilt edges, rounded corners, \$5.00; with thumb index, \$6.00 net. P. Blakiston's Son & Co., publishers, 1012 Walnut street, Philadelphia.

This book is in every respect and detail new. Its object is to supply the practitioner with trustworthy, modern definitions of essential medical words and terms. It is based on recent medical literature. It contains among other new features the terms of the Basle Anatomical Nomenclature (BNA). The standards of pharmaceutical preparations as authorized by the eighth decennial revision of the United States Pharmacopoeia are given. Tables of signs and abbreviations used in general medicine and the specialties, and of the English and metric systems of weights and measures are introduced.

Thornton's Pocket Medical Formulary. New (8th) edition, revised to accord with the new United States Pharmacopoeia. Containing about 2,000 prescriptions, with indications for their use. In one leather bound volume. Price \$1.50 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1907.

AN HONOR TO A CALIFORNIA SURGEON.

It is with pleasure that we note in the January number of the "Bulletin of the Surgical Society of Paris" that a distinguished member of our society, Dr. Dudley Tait, of San Francisco, has been elected one of the foreign corresponding members. As the number of such members is strictly limited, the election to this membership is a distinct honor, and we congratulate Dr. Tait.

ANNOUNCEMENT.

The Journal of Inebriety, after thirty years of continuous studies of the disease of inebriety and drug taking, begins its new decade by entering upon comparatively new fields of physiological and psychological therapeutics, for the treatment of these neurosis. Arrangements have been completed by which the Archives of Physiological Therapy has been consolidated and will hereafter be published as a part of the Journal of Inebriety.

A BIOGRAPHICAL SKETCH OF THE LIFE OF DR. WEMPLE, SR.

Dr. Emmet Le Roy Wemple was born in Jamestown, Chautauqua County, New York, June 18th, 1849. His parents crossed the plains when he was seven years old, and settled on a farm in the northern part of California. At the age of twelve the doctor herded cattle in order to support himself and continue his schooling. Later he entered the Santa Clara College at San Jose, and at seventeen, with that equipment, taught in a small country school, earning and saving until he was able to enter the State Normal School, where he completed his course by working in the vacation months and living frugally. When he had accumulated enough money, he entered Cooper Medical College, graduating in 1873, and through which he worked his way by teaching school and serving as interne in the Marine Hospital. Everything Dr. Wemple achieved in his boyhood and the subsequent years was by his own unaided efforts. Such an experience bred the kindest understanding of the struggles of others. After the doctor's graduation he went to the coal mining town of Nortonville, Contra Costa County. In that year he married Annie I. Gunn. He remained in the little town two years, meeting with remarkable success, after which he moved to Antioch, Contra Costa County, where he practiced fourteen years, at the end of which time he came to San Francisco in the capacity of chief surgeon of the Union Iron Works. He eventually outgrew the district and established his office in the Clarke Building at Sutter and Stockton streets, later moving to the Emerson Building, where he was located at the time of the fire. During this catastrophe he gave the last of his strength in his efforts to allay the suffering of those around him.

Dr. Wemple had business capabilities unusual in a man of his profession. He had large and absorbing business affairs to handle and with all did not overlook the smallest interests of his patients. His life was unusually intense, and although he had not his full measure of life in years, he had in experience. The doctor was president of the Clara Barton Hospital, in which he had a keen personal interest. He was also medical examiner of the Pacific Mutual Life Insurance Company in San Francisco and medical director of the West Coast Life Insurance Company. At one time he was a member of the State Board of Medical Examiners.

The doctor's recently weakened physical condition was undoubtedly due to his untiring labors during and after the fire. At that time he worked far beyond his strength.

Dr. Wemple died on January 15, 1907. Besides his widow, he leaves three children, Dr. E. L. Wemple, Jr., Mrs. J. C. Hiden Edwards and Edna M. Wemple.

DR. GEORGE WASHINGTON FULLER.

George Washington Fuller, M. D., whose death occurred at his home in San Francisco on January 1st, 1907, was born at Lincoln, Placer County, California, on November 18th, 1859. He began the study of medicine at Cooper Medical College in 1884 and graduated with high honors in 1887.

Following his graduation he became associated with the late Dr. L. C. Lane, subsequently taking a post graduate course in New York City. Dr. Fuller continued the practice of his profession in San Francisco and became recognized as one of the leading surgeons of the Pacific Coast.

Aside from his professional skill, his genial ways and sympathetic nature won him a host of friends.

The funeral was held under the auspices of King Solomon's Lodge No. 260, F. and A. M., on January 3rd, 1907.

DR. GEORGE H. THOMA, OF NEVADA.

On the thirty-first day of January, 1907, Dr. Geo. H. Thoma died at his home in Reno, Nevada, after a brief illness. He was born in Montgomery County, New York, in 1843, and was accordingly in his sixty-fourth year. Dr. Thoma was graduated in medicine at the Albany Medical College in 1864, and at once enlisted in the Union Army. He was assigned to duty as Assistant Surgeon of the Second New York Heavy Artillery, and was at the front with Grant's army when Lee surrendered.

A little later, moved by the spirit of adventure, and attracted by the reports of mineral development in Nevada, he turned his face westward. At the Missouri River his depleted purse made it necessary for him to join a freighting outfit bound for Salt Lake City. On this journey he bore his share of the burdens and asked no favors. From Salt Lake, with two companions, he made a perilous journey across several hundred miles of desert with a makeshift outfit of one mule and a light vehicle. In the summer of 1867 he arrived in the Reese River Valley (now Austin, Nev.). He was utterly destitute, his clothing was in tatters, and his health was broken by exposure and deprivation. His only available resources were his medical training and limitless faith in his own energy.

To meet his pressing needs he found temporary employment as a miner, and in later years he thoroughly enjoyed recounting his experiences as an ore-sorter in a primitive quartz mill. His professional work in civil life began in 1868 in White Pine, and it was here that he laid the foundation for a long, honorable and useful career. A few years later he was attracted to Eureka, Nev., where he worked successfully for fourteen years.

He was a member of the State Senate from 1884 to 1888. In 1887 he established himself permanently in Reno. Here, as elsewhere, he at once found a wide field of usefulness. Indeed, with him the matter of material success never seems to have been a serious question. Broad charity toward all attracted to him friends and adherents from all classes. To his professional work he brought intelligence of a high order, sincerity of purpose and judgment matured by long experience. In the conduct of a wearisome practice, personal considerations were made subservient to the call of duty. To him, no journey was long, no obstacle unsurmountable. In the isolated hut of the ranchman, or the miner's cabin, as in the abode of wealth, the name of Thoma was the synonym of all the good ties that endear man to his fellow-man. His life was the exemplification of the highest type of the loyal citizen, the brave soldier, the intrepid frontiersman, and more than all, the modest, generous, genial gentleman.

For forty years Dr. Thoma lived and worked in his adopted State. In her social, political and professional life he became a conspicuous and picturesque figure, and enjoyed the unique distinction of having practiced his profession continuously in Nevada for a longer period than any other of his colleagues. He was a consistent and faithful lover of Nevada. He spoke often of the sense of restfulness that came down to him from her rugged mountains, and the barren stretches of her desert plains never wearied him. During all her vicissitudes his faith in her people, her industries and her ultimate prosperity, never waned.

Dr. Thoma's home life was ideal. His affection for those nearest and dearest to him was founded upon human interest, and personal sacrifice. At his own fireside, as in his daily toil, there was shed the radiance of noble character and lofty ideals.

To his widow and children he has left a rich legacy in a life spent in honest effort.

THOMAS W. HUNTINGTON.

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be
Typewritten.

Notify the office promptly of any change of address, in
order that mailing list and addresses in the Register may
be corrected.

VOL. V APRIL, 1907. No. 4

EDITORIAL NOTES.

IMPORTANT NOTICE!

Remember that the State Society meets at Del
Monte, Tuesday, Wednesday and Thursday, April
16th, 17th and 18th.

Remember to secure a receipt certificate when
you buy your ticket, so that you may get the one-
third fare on the return trip.

Remember to have your receipt certificate signed
by the Secretary at Del Monte.

Remember that the American Medical Association
meets at Atlantic City, New Jersey, June 4th,
5th, 6th and 7th, and that special rate tickets will
be on sale beginning May 25th.

Especially to those few physicians who have re-
proached the STATE JOURNAL for the amount of
space it has devoted to the con-
demnation of nostrums, do we
WE AID QUACKERY. commend a careful reading of an
address by Mr. Bok, of the *Ladies'*
Home Journal, reprinted in this issue from the
Journal A. M. A. In the last five years we have
printed thousands of words, pages and pages of
matter, condemning the ignorance of the physician
who will prescribe for his patient a substance of
unknown composition. And yet some of our mem-

bers have continued on their criminally ignorant
course. We should like to know how any physi-
cian can excuse himself for using "antikamnia," for
instance, one of the rankest of nostrum frauds
which, with the passage of the food and drugs act,
stopped using acetanilid and substituted therefor
phenacetin! It is possible to understand how a
privately owned and published-for-profit journal
might continue the shameful prostitution of its
pages to the promoting of these "patent medicine"
frauds, but how is it possible for us to excuse the
journals owned and controlled by the organized
medical profession itself? New York, Michigan,
Missouri, are startling examples of our "Unctuous
words, but unclean hands." And these States are
cited, not because there are no others, but because
the representatives from these States have for sev-
eral years been delivering the "unctuous words" in
the House of Delegates of the American Medical
Association, and then going home and doing noth-
ing to put a stop to the open sale of the respect of
their medical associations on the nostrum bargain
counter. Mr. Bok is perfectly correct. We are
not only doing nothing to help in the crusade
against all this rottenness—a crusade for simple
truth and honesty—but we are positively hindering
him and other laymen in their work. And you can
not say that there is no source of knowledge open
to you; that you can only believe the words of a
firm you believe to be honest. That is not true.
The Council on Pharmacy and Chemistry is ready
to give you the truth at any time, and if you are
using "proprietary" preparations not approved by
the Council, you are doing something that is not
merely careless or ignorant, but is really criminal.
It is your moral and legal duty to know the truth
about that which you give your patients. Study
Mr. Bok's article carefully.

The field opened by the opsonic theory of Wright
and others is so vast as almost to paralyze specula-
tion. As the technic required is
OPSONIC somewhat complex and delicate, ac-
THEORY. tual results obtained by following
out the natural lines of the theory
must necessarily come to us but slowly. While
much of the medical press of the world has given
considerable space to discussing the opsonic theory
and its possibilities, we have thus far avoided the
discussion and have awaited further developments.
Enthusiasts here and there have claimed unlimited
possibilities and almost unlimited probable cures as
the natural sequence of the development of Wright's
work and theory; but it remains to be seen how
elaborate and far reaching the actual results will
be. Elsewhere in this JOURNAL we take pleasure
in presenting a couple of papers which set forth
clearly and briefly the fundamental principles of
the opsonic theory and the technic.

THIRTY-SEVENTH ANNUAL MEETING

OF THE

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

DEL MONTE, APRIL 16TH, 17TH AND 18TH, 1907

THE CALIFORNIA PUBLIC HEALTH ASSOCIATION WILL MEET AT THE SAME PLACE APRIL 15TH, AND AN INTERESTING PROGRAM HAS BEEN PROVIDED.

Tuesday morning there will be a general session at which the President's Address, Report of the Tuberculosis Committee, and several other general topics will be presented, including a paper by John W. Robertson giving some of the mental and nervous effects of the catastrophe of last April, and one by George H. Kress on the relation of medical societies to public health activities.

Wednesday morning there will be a symposium on Diabetes; Physiology of Glycosuria, by Martin H. Fischer; Operations on Diabetic Patients, by O. O. Witherbee; Treatment of Diabetes, by C. M. Richter; Prognosis, by C. W. Twitchell.

Thursday morning the symposium will be upon Gastroptosis and Allied Ptoses; Diagnosis, by L. G. Vischer; Medical Treatment, by Charles L. King; Surgical Treatment, by J. Henry Barbat. Should this symposium not occupy all of the time of the general session on Thursday morning, some of the medical papers will be read.

The afternoons of Tuesday and Thursday will be devoted to sessions of the sections on Medicine, Surgery, Eye, Ear, Nose and Throat Diseases, Dermatology and Genito-Urinary Diseases, with which section will meet the Pacific Coast Branch of the American Urological Association.

The Surgical papers include the following: Prostatectomy for Malignant Disease, by Theo. G. Davis; Aberrant Thyroids, by A. S. Lobingier; Post-Inflammatory Adhesions, by W. P. Burke; Carcinoma of the Clitoris, by Chas. D. Lockwood; Surgical Import of Adhesions in Right Upper Abdomen, by Wallace I. Terry; Influence of the Usual Foot-Gear on Weak Feet, by S. J. Hunkin; Bone Filling, by Jas. T. Watkins; Cranial Surgery, by O. D. Hamlin; New Plaster Compound for Permanent Surgical Dressings, by Raymond Russ; Clamp for Holding the Ends of Fractured Long Bone for Screwing or Wiring, by H. M. Sherman.

In the Medical section we find the following papers: Infant Feeding, by R. L. Porter; Consequences of Gastric Ulcer, by Wm. Fitch Cheney; Pulmonic Sound in Mitral Incompetency, by W. W. Kerr; Specific Therapy in Tuberculosis, by George H. Evans; Stenosis of the Larynx, by F. G. Bur-

rows; Underlying Causes of Rheumatism, by Robert Crees; Differential Diagnosis Between Organic and Functional Disorders of the Stomach, by Dudley Fulton; Analysis of the Gastric Contents, by Boardman Reed; Pharmacologic Action of Salicylic Acid, by L. B. Stockey; Two Cases with Symptoms Increased Intracranial Pressure and Autopsy Findings, by Ross Moore; Grecco's Sign, by J. B. Frankenhimer; Manic-Depressive Insanity and its Main Features, by A. W. Hoisholt; Insects and Infection, by W. B. Wherry; Myelogenous Leukemia, by Henry Harris; Occipito-Posterior Presentations, by N. E. Richardson; Opsonic Index, by L. S. Mace; New Therapeutics, by L. J. Belknap; Filarial Diseases Found in California, by Herbert Gunn; Action of Toxins on Cardio-Vascular System, by W. A. McEnery; Aneurism of the Heart, by W. C. Voorsanger; Placenta Previa, by A. B. Spaulding; Throat Infections of Childhood, by Saxton Pope.

The Eye, Ear, Nose and Throat section offers the following papers: Epidural Abscess Complicating Mastoid Suppuration, by Hill Hastings; Otitis Media in Children, by Sanford Blum; Cerebral Complications Due to Suppuration of Middle Ear, by C. F. Welty; Surgical Treatment of Motor Anomalies of the Eye, by B. F. Church; Brain Symptoms of Typhoid Simulating Those of Mastoiditis, by Kaspar Pischel; Frontal Sinusitis and Operation by Killian's Method, by E. C. Sewall; A Fatal Case of Pemphigus Beginning in the Pharyngeal Mucosa, by M. W. Fredrick; A Case of Pemphigus Beginning in the Mouth, by R. D. Cohn.

The section on Dermatology and Genito-Urinary Diseases, with which meets the Pacific Coast Branch of the American Urological Association, presents the following papers: Bladder-Neck and Some of Its Diseases, by R. L. Rigdon; Choice of Anesthesia for Operations Upon Genito-Urinary Organs, by M. Krotozyner; Consecutive Methods in Genito-Urinary Diseases, by E. G. McConnell; Diagnosis of Enlarged Prostate, by Granville MacGowan; Lichen Planus with Lesions in the Bladder, by Geo. S. Whiteside; Extra Genital Chancres, by Ralph Williams; Demonstration of Liquid Air in Dermatology, by Howard Morrow.

Let us hope that the Thirty-seventh Annual Meeting of the State Society, which is to be held at Del Monte this month, will not come and go without seeing some vigorous expression of the paramount necessity for

PROTECT THE HELPLESS.

taking public health institutions out of politics. If we sit quietly by and make no effort toward the education of our lay citizens in those matters of general public interest where information should come from our profession, we have but poorly fulfilled our duty toward the community. The time has come when we can not blind ourselves to the fact that we owe something more than quiescent residence to the people of the place in which we abide and make our living. City and county health officers and boards of health should not be appointed for political reasons, but for professional fitness, and the voters should be told why this is so and what it means to the citizens to have it so. Preferably, such public health officers should be nominated by the county medical societies; and, indeed, it would be well if the county medical society were in truth the county board of health. It is a disgrace to a civilized state to have those in charge of state or county institutions for the care of sick or afflicted, appointed for political reasons and because of the "patronage" which they can deal out. We, as physicians, know what unfitness in the supervision of such institutions means to the poor inmates, but the general public can not know this unless we tell them. It is startling to see how quickly any good business man, lawyer or minister will appreciate the truth of these things when it is once pointed out to him. We can safely count on the support of the reputable portion of any community if we will but take the trouble to do our duty and point out what ought to be done and why.

NOTE.—Owing to the following long review of the "Viavi treatment," further editorial comment is not included in this issue. We especially request your attention to the Viavi review. It has been in preparation for several months, has been approved by the Publication Committee unanimously, and by the Council.

THE "VIAVI" TREATMENT; ITS PROMOTERS AND ITS LITERATURE.

Some twenty years ago, more or less, two young men, with a very small capital, but with highly developed commercial ability, and an "idea," began business operations for the development of the "idea" in San Francisco. It was soon evident that the "idea" was no less valuable than the methods of development followed by the clever promoters. Time passed, the business grew and expanded beyond the limits of the city or the state or the country. But the smooth surface of the municipality was not disturbed; these two quiet gentlemen did not advertise themselves or their business methods by forcing either upon public attention.

They soon began to acquire real estate in the vicinity of Van Ness Avenue, at first for their business requirements, and later for the investment of their profits. Presently their activities expanded; they moved into the down town real estate field and exhibited a shrewdness and a judgment in the selection and exploitation of development enterprises that very soon attracted the attention of the business men of the community. The Crossley and the Rialto Buildings were of their holdings, and were later traded for the Fairmont property; it is said, very advantageously. One of these brothers—for the men are brothers—undertook, we are told, on his own account the erection of the Monadnock Building on Market Street, which, it will be recalled, was one of the buildings practically undamaged by earthquake and but little by fire. The land is said to have cost \$1,000,000, and certainly the building must have increased the investment very considerably. It was one of the first buildings to be put in habitable shape immediately after the fire, and the financing of the enterprise is regarded by some business men as one of the cleverest pieces of financiering known in the city.

With the erection of these excellent civic improvements, attention was attracted to the two brothers who were thus demonstrating their faith in San Francisco, no less than their business acumen, by these very considerable investments from the proceeds of the well-cultivated "idea." They soon became prominently identified with various commercial activities. One of them was urged to become a director or trustee of the Young Men's Christian Association, and did so, retaining that connection, by request of the association, up to the present time. The other brother, we have been informed, has so impressed the financial element of the community with his most remarkable abilities as a financier and his excellent judgment in the selection of investments, that he was offered a large honorarium to give a few hours of his time as advisor to the management of one of the large banking institutions of the city, but could not spare the time from his own affairs. The commercial sagacity which saw the value of the "idea" and its development along original lines, and which intrepidly had its beginning with an extremely small capital, has been justified a thousand fold and has added to the city many large and magnificent buildings.

The real estate and commercial activities of these brothers must have been conducted with scrupulous probity, for they have the confidence of the moneyed interests and none is so keen to detect dishonest practices as the successful business man.

Let us see whence came this stream of gold, pouring from the original "idea," broadening and deepening until it has become a river of gold, capable of conversion into palatial buildings and holdings valued at millions.

The "idea" found its material existence in what is known to the promoters as "the Viavi treatment," and in its essence is so simple as to pass recognition. After reading all the Viavi literature hereafter referred to, and after statements made

to us by Doctor Law, in our opinion the merit of the "treatment" consists in the well known principle of the vaginal douche. To be sure, the real "idea," the douche, is masked about and hidden under "Viavi capsules" and "Viavi cerate," and "Viavi royal," and almost innumerable other "Viavi" stuff, with curative powers apparently unlimited, as appears from the statements of the promoters hereafter set forth. Other things were cultivated as the territory enlarged under the brilliant management of the promoters, but the original source of the golden stream seems only to be the vaginal douche.

It is a well known fact that women seem to have the singular and rather unhealthy idea that the sexual organs should be ignored as something "low," "vulgar," or "indecent." Most of them do not keep those portions of the anatomy which are peculiar to themselves, clean. Few mothers teach their daughters even the fundamental facts of reproduction or the physiological data concerning their peculiar sex characteristics; fewer teach their daughters to keep the vagina clean by the use of douches; and fewer ever know, until they learn through experience, generally bitter, the tremendous importance of cleanliness and hygiene in the duties and obligations which are assumed with marriage.

Most women suffer more or less from their reproductive organs, and a very considerable amount of this discomfort or suffering is due to lack of commonsense cleanliness. And that, as we understand it, is exactly what the agents of the Viavi are eternally preaching; it is almost every other word in the documents which the concern puts out; keep the vagina clean, by the use of the douche, and use a little common sense. The immediate increase of personal comfort, and many times the quick relief from some annoying minor ailment, which follow upon the exercise of cleanliness and common sense, might so hypnotize the average woman who accepts the Viavi preachments and takes the Viavi "treatment," that she would be ready to believe almost anything the promoters care to tell her. But, of course, no large paying business could be built up by simply selling a little good advice and a trifle of common sense. There must be something definite to take, some wonderful, secret and very costly remedy that will work the result, to secure which the douche is but the merest preliminary. Hence the "capsules" and the "cerate" and the "liquid" and the "royal," and the rest of the wonderful remedies which, collectively, leave little uncured or incurable by Viavi.

Now let us see how these gentlemen, Messrs. H. and H. E. Law, originators of the "idea" and of the "Viavi treatment," as we have seen, well known citizens of San Francisco and prominently identified with members of its upright and honorable commercial bodies, *work* the "idea" and conduct its business side so that it earns for them the millions which pour into their coffers. The promoters are the brains and the life of the enterprise and cannot be dissociated from it.

Do the Viavi "remedies" contain morphine, or

opium, or some habit-forming drug? (See JOURNAL, August 1906, page 205.)

The very question which we asked was bitterly resented by these gentlemen. They claimed it was a reproach to their self-respect even to intimate that they, who seek to allieviate the pains of suffering humanity in general, could trade upon human life and character by selling to innocent people habit-forming "dope." They sent us copies of all sorts of certificates from analysts showing the absence of any harmful drug. And, furthermore, upon reflection, we came to the opinion that from the purely business standpoint, it was unnecessary to put an expensive article like morphine, and one liable to bring about trouble in the future, into their "remedies" when they do not need to. We need no further enlightenment and accept the statement that the preparations are free from morphine, etc.

"Were the Viavi remedies used for the prevention of conception or the procuring of abortion?"

This query was even more horrible to the promoters than was the former question. The very thought that such objects or purposes could be attributed to them was most painfully distressing to the Messrs. Law, and they felt keenly injured in their self-respect. They assured us in every way, by the spoken and the written word, that, so far from their having ever advocated the repulsive measures suggested, their greatest joy in life is to feel that, through the benevolent action of their remedies, they have aided thousands to become fruitful and have made the barren woman conceive and bring forth.

But we had heard that their agents *did* sometimes recommend that Viavi was a means of preventing or aborting conception. Could it be so? Well, while they preached against it in every possible manner, irresponsible agents would occasionally overstep their instructions and suggest the frightful misuse of the Viavi. But the company repudiated all such and, in a letter, offer to aid in the prosecution of any representative suggesting Viavi for this vile purpose, or offering to sell anything with Viavi for the same criminal object. Possibly the agents or representatives who so far transgress their instructions as to suggest the criminal use of what the makers hold to be one of the most valuable blessings ever bestowed upon a suffering people, have read and appreciated the import of the following statement (page 178 of a book entitled "Viavi Hygiene," edition of 1906), and another, quoted later:

" * * * but no attempt should be made to force or introduce the capsule into the mouth of the womb, as placing any substance within the cavity of the uterus is directly against the laws of nature, a fact shown by the contractions and labor-like expulsive pains that are induced by the introduction of any foreign substance within the uterine cavity."

We may safely assume that the Viavi "treatment" is free from opium, morphine, etc., and that the promoters do not encourage the practice

of preventing or aborting conception. Such being the case, the question very naturally presents itself: "What is the Viavi treatment; what does it do and what do the promoters say of it; how do they present their claims and what do they claim?"

The original "treatment" was directed wholly to the afflictions of women, if we are not mistaken, and consisted of good advice, cleanliness, the douche and a capsule which was to be placed in the vagina, preferably high up and touching the cervix. Later, a cerate was made, the argument being that the vagina could not absorb enough of the wonderfully curative remedies contained in the capsule, so they were incorporated in the cerate, which was to be rubbed energetically into the back and belly. Still later, a liquid, also possessing the marvelous properties of the capsule and the cerate, was put out. At the present time there seem to be, in addition to the three forms mentioned, Viavi "Royal," Viavi "suppositories," Viavi "tablettes," Viavi "eye treatment," Viavi "ear treatment," Viavi "tonic" and Viavi "laxative."

As to what it is, we confess ourselves a trifle at fault. The manufacturers speak of their various preparations as though "the great Viavi" were an entity, a special and particular substance created for the purpose of being incorporated into all of their various mixtures, of which it becomes the essential and universally curative base. On the other hand, a firm of analytical chemists reported recently, as follows: "The capsules contain no morphine, and so far as we are able to determine, they contain nothing but the extract of hydrastis and cocoa butter." Here is a difference of opinion. As all of the preparations are said to contain "the great Viavi," and as this one is reported to contain nothing but hydrastis and cocoa butter, we might possibly be excused for holding the belief that hydrastis enters into all of these wonderful compounds, and is the multifarious curative agent; or else, that the identity of "the great Viavi" changes as it enters into the different preparations.

Do the promoters of Viavi place before their patrons truth or fiction? Do the Messrs. Law, in conducting the Viavi business, adhere to those principles of honesty and fair dealing which, as citizens prominently identified with other and very large commercial activities, presumably they must exercise? In the business which has brought to them such enormous returns, have they exercised the common or "garden" variety of honesty, or have they resorted to half-truths and to but thinly veiled appeals to other influences?

Let us see what may be gleaned from the publications which they sent us. These consist of ten leaflets or pamphlets, one entitled "Health Book for Mothers and Daughters," and a volume of 610 pages entitled "Viavi Hygiene"; the work of wading through this mass of material has been by no means slight, and we have called upon a prominent gynecologist and a distinguished surgeon to aid in our labors by going through the material and making such comments as occur to them. All italics, etc., in quotations are ours.

From the "Health Book" we learn that Viavi "is purely a vegetable compound—more a food than a medicine, and is prepared in a predigested manner, so that it can be easily absorbed by the tissues of the body with which it comes in contact. The capsule is applied directly to the uterus through the vagina and is absorbed, giving health, strength and vitality to these parts. The cerate is applied to the skin, over the diseased organs, and here, through the absorbent power of the skin, the patient is able to introduce Viavi into the system directly and in such quantities as may be desired. The membranes lining the cavities of the body, especially those of the mouth and nose, the throat, the bronchial tubes, the stomach, the bowels, the uterus, the vagina, and the bladder, originate from one parent cell early in foetal life and often when a person is predisposed to a weakness in this cell it is noticed in the lining membranes of these organs."

There is a truly beautiful, truthful and scientific statement! But why not include all the other tissues and structures of the body, which, equally with those named, spring from that one parent cell?

As we wend our strenuous way through the "Health Book," and through "Viavi Hygiene," we are ever confronted with references to the joys and pleasures of the "marital obligation," the terrific result upon the affection of the husband which follows upon the wife's loss of personal beauty, and we are continually informed that, as "nine women out of ten are lacking in health and strength, if not positively ill," the former pleasures will surely be lost and the affection wane, unless the unfortunate woman uses Viavi, when, of course, the desired result which follows upon health, is speedily secured.

Under the caption of Leucorrhea, we learn that "This is a complaint from which almost every woman suffers at some period in her life." "*It is the very life force ebbing away.*" (Strangely like the phraseology of the "Men's-diseases-only" quack in his "literature" relating to spermatorrhea!) "She cannot bear healthy children. They will be liable to total weakness of the system," whatever that awful condition may be. "They may have scrofula or even consumption." The horrors are piled up, and we learn that "There are deep rings under her eyes, her complexion is yellow, she grows irritable and inexplicably melancholy. If she is a wife those duties that were once her pleasure become obnoxious. No matter how much she may love her husband, her *marital obligation becomes distressing.*" Of course, Viavi dispels this all-embracing gloom, restores her "pleasure," removes the awful sentence from her unborn offspring and renders the "marital obligation" once more delightful.

Local offices are provided in all the principal cities and are presided over by "trained specialists in diseases of women" who have a "larger experience with these diseases than any other specialists could possibly have."

Examination of patients is entirely unnecessary, by the Viavi "treatment"; the patient makes her

own diagnosis, or "if a blank Health Statement is procured, filled out and returned, competent advice will be given upon it."

In one pamphlet we read that "A distinctive feature of the Viavi treatment is the permanency of the cure," while in another we are told that "It is one thing to make a cure complete; it is quite another to make it permanent. Of course we cannot insure anyone against a recurrence of disease." Of course not.

The proprietors of the Viavi "treatment" not only maintain that their agents are competent to suggest the proper treatment without examination of the patient, and that the omnipotent wisdom of the officials in the home office (or some other) can give "competent advice" by mail, but they refer in terms of greatest horror to physician, gynecologist and surgeon, intimating that more harm than good always results from obtaining professional advice from licensed physicians. The gynecologist is referred to as the "body carpenter" and his work as "sacriligious carpentry." We are told by the Messrs. Law in their publications, that operations "for the removal of a diseased breast rarely or never prove entirely successful," and that "extirpation or removal of diseased tissue by surgery is worse than useless."

One must pause to wonder what can be the sensations of the Fellows of the Chemical Society (England) when they think upon such utterances from their distinguished life member, H. E. Law, as we have quoted above. It must be gratifying to the fellow directors of Dr. Hartland Law, in the Young Men's Christian Association, to learn the remarkable degree of truth and scientific intelligence which he displays in his appeals to suffering women, no less than the respect which he shows toward one of the great liberal professions.

Let us quote a few extracts from the book, "Viavi Hygiene." "Let a father reflect what it means to a girl to be submitted to an examination, even by a most considerate physician, if she falls ill—and these examinations are almost invariably made, and are rendered wholly unnecessary by the Viavi system of treatment."

"The mutual confidence that grows up between a sufferer and a Viavi representative is beautiful. Out of it arise conditions of the greatest value to the sufferer in her progress toward a cure. The sufferer opens her heart, is enabled by the knowledge that she acquires to explain her condition intelligently. * * * Of course, the untrained mind of a girl is much more able to explain her condition than could a "most considerate physician."

"Every day thousands of women throughout the civilized world are deprived of their sex by the surgeon's knife, but the emasculation of a man is so rare an occurrence as to be extraordinary."

"Believing, as they do, that a woman's sex is of small or no importance to her economy, it is no wonder that physicians abound who will employ surgery to relieve them from the annoyance of menstruation and the risk of insemination."

"Wherever we look, using our eyes and brains,

we see that sexual capacity and sexual appetite go together, and that they are absolutely inseparable; that there can be no sexual desire unless there is sexual capacity."

"A woman with a low estimate of the value of her sex * * * will not understand what her physical perfection means to her husband, nor how closely marital happiness depends upon it."

"A very large proportion of women's diseases were really incurable until the Viavi system of treatment was introduced."

"As for the influence of physicians with regard to the Viavi system of treatment, while many of the broader sort heartily indorse the treatment, some may be found arrayed against it, and ready to condemn it if their opinion of its merits be sought." (It would be interesting to know the names of "many of the broader sort" of physicians who indorse the Viavi "treatment.")

"The number of women whose breasts have been needlessly removed is appalling * * * a woman deprived of one or both of her breasts is hopelessly and lamentably disfigured."

There is a long chapter on "Conjugal Relations," which is certainly sufficiently explicit for the average girl whose father is warned against the evil, nay, terrible, results which are entailed by calling in a physician when she is ill. Much might be quoted, but one fragment will suffice:

"The evil effects of unsoundness of the sexual nature are so various and far reaching that even Viavi advocates *who have made so close a study of them*, doubtless fall far short of estimating them at their full value and to their whole extent. Thus, we may find conjugal infelicity between two persons seemingly perfectly healthy, the woman particularly being apparently perfectly sound in her sexual nature. (*sic.*) Yet she very likely inherited from her mother, through the latter's efforts to avoid maternity, a dislike for children and a refusal to bear them, thus incurring her husband's illfeeling; or she may have inherited a dislike for her husband's attentions." (This is most respectfully referred to Havelock Ellis, and doubtless it will be found very edifying by him.)

"A wife may have so strong an affection for her husband that, even though she is lacking in desire, she takes a certain pleasure in giving him pleasure; but it is clear that this is a different thing from sexual pleasure, and that unless a woman enjoys this sort of pleasure she is not only losing what Nature intended she should have, but is violating a natural law of her being, and must suffer the penalty in one way or another." Of course we find, later on in the same paragraph, that "the effect of the Viavi system of treatment in such cases is remarkable in every way * * * rejuvenates the whole nature (*sic.*) of a woman—makes her perfect in all the *attributes of wifehood.*"

"Everything connected with it (Viavi) tends to bring women into a closer relationship with Nature and Nature's God."

"Curetting, the ordinarily prescribed treatment

for flooding (metrorrhagia), has been rendered obsolete by the Viavi system of treatment."

"If the disease is in the form of tumors or polypi in the womb, she will be advised, sooner or later, unless she adopts the Viavi system of treatment, to submit to an operation in which her abdomen will be cut open on the median line, and the *symmetry of her figure destroyed*; perhaps she will be advised to submit to the removal of the womb. The Viavi system of treatment renders all these measures wholly unnecessary."

"A woman afflicted with any form of painful menstruation is in positive and imminent danger of a surgical operation, whether minor or capital, unless she adopts the Viavi system of treatment."

"Curetting is resorted to because those who employ it have no better means of treating the conditions that they wish to overcome. * * * The Viavi system of treatment has rendered curetting unnecessary wherever employed."

"Leucorrhea in time entirely destroys the chief function of the vagina. Its walls become loose and flabby. Thus *sexual commerce becomes unsatisfactory and incomplete*."

"* * * the remarkable effectiveness of the Viavi system of treatment * * * places it in the power of healthy wives to LIMIT THE NUMBER of their offspring for proper reasons, and women who are not fit for maternity to AVOID it by natural means."

What was it we asked about Viavi being recommended for the prevention of conception?

When the careful student of the book "Viavi Hygiene," reaches the section devoted to tumors, he first learns the depth of ignorance in which all the scientific world, except the brothers Law, is sunk. No longer need the British Medical Association expend money or its savants waste time in trying to find the cause of cancer. Let Harvard University terminate the existence of its Cancer Commission. These are all but foolish children, groping in the dark in the effort to find the cause of one of the saddest afflictions; the Law brothers have known it for years. The success with which they have kept their wonderful knowledge from the scientific world is no less than the modesty which they display in setting forth the facts in this greatest of all books. Listen: "If you have tears, prepare to shed them now!"

"The cause of these growths (tumors), which by inspiring terror drive so many women to a premature death by way of the operating table, is so simple a thing as a poor circulation of the blood. Tumors are caused by a stagnation of the venous blood. * * * This important discovery on our part has swept away the mist that has always surrounded this subject and enabled us to accomplish the most remarkable cures * * *."

"Ovarian tumors, uterine tumors, whether inside the cavity, in the walls, or outside the walls; tumors of the vagina and Fallopian tubes; fatty, cystic or fibroid tumors; in fact, *tumors of all kinds in all parts of the body*, have been treated successfully by the Viavi method." The Young Men's Christian

Association must take great pride to itself when it realizes that one of the gentlemen who voice this statement is on its board of control, for is not his modest plea calculated to draw shekels from the pockets of poor, suffering women in an anxious pursuit of health?

Nor is it only suffering women who may find relief at the hands of these gentlemen, these prominent citizens of our community who have grown from poverty to affluence—by exploiting the Viavi treatment. They do not hesitate to hold out encouragement to man when he contemplates the loss of his proudest possession, his testicles. For a monetary consideration, not stated, the Messrs. Law will give the wonderful Viavi treatment to men afflicted with atrophy of the testicles, and hold out the encouraging intimation of a probable cure.

"We recall particularly the case of a man suffering with wasting of the testicles, who secured perfect recovery from the Viavi cerate applied to the scrotum."

Note the keenness of the wording; the man "secured perfect recovery from the cerate," not from the wasting of the testicles!

Indeed, the keenness of the verbiage is one of the most remarkable things about the Viavi "literature," and is but another of the indications of the commercial acumen of the promoters, the Law brothers; for some years they employed, at no small expense, one of the cleverest writers on the Pacific Coast. Such work as theirs was not to be left to the ordinary "patent medicine" circular writer; their "literature," like their "treatment," must be unique, distinctive.

We are told, with the greatest air of frankness, that appendicitis, paralysis, paresis, locomotor ataxia, asthma, palsy "and many more, proceed from a depletion of nervous force—from *nervous debility*." While we are nowhere told that all of these conditions can be cured by Viavi, we are told that *nervous debility* may be prevented or cured by it, and the natural implication, so subtly conveyed by the clever writer, might well produce the result that the poor incurable is parted from his coin; or the person with appendicitis is deluded into giving up, perchance, his life.

The London Lancet for March 10th, 1900, and January 17th, 1903, pays its respects to the Viavi Co. In the first-mentioned issue, it commented upon certain facts which came out at an inquest held February 25th, 1900, by the coroner of East Sussex, upon the body of a woman who had died while under treatment by the Viavi system. The jury handed in the following verdict:

"We wish to return a verdict of death from natural causes; we also think that the life of the deceased might have been prolonged had she been placed under properly qualified medical treatment, and from the evidence brought before us, we consider the Viavi Company a fraud." In another case heard before His Honor, Judge Parry, in the Manchester County Court, on May 17th, 1901, the same fraudulent parties had to pay £50, with

costs, for breach of contract, i. e., for failing to cure.

It seems to us as medical men that nothing need be added to the force and effect of the foregoing excerpts from the literature issued necessarily with the approval of the Messrs. Law. But we trust that our present review of the "Viavi system of treatment," and of its promoters, will reach the eyes of many who are not physicians, and hence we must comment somewhat upon the general question discussed.

If the Laws are correct in their views on physiology and pathology, then the whole medical world is all wrong.

If their statements as to the value and effect of operations in cases mentioned in the foregoing quotations are true, then all the surgeons in the world are wrong and are doing infinite harm.

The whole progress of medical thought and advancement during the past hundred years is totally opposed to the remarkable theories of the Law brothers. What reputable physician, not employed by them, could be found to agree with them?

And what can be said of their printed statement that when a woman has acquired strength through the use of Viavi remedies, she can control and regulate the birth of her children and their number?

We ask all the honorable gentlemen who are business associates of the Laws, the directors of the Young Men's Christian Association, and the rest, what they think of the quotations from the Viavi literature above set forth? Do they agree with the claims of the wealthy brothers? Do they think that with increased health and strength a married woman can by more than one proper means control conception? Do they stand for that statement made by the proprietors of this "discovery?" Is the whole wide world, medical and lay, wrong, and are the commercially successful Laws alone right? Think it over, gentlemen!

Yet, of such is the business of the "Viavi" constructed; a business which has made two men, starting with practically nothing, affluent. Their patrons consist of confiding sick and suffering women, to whom, not skilled in medicine, their literature appeals.

Do their associates believe that the Viavi treatment can do what the Laws claim for it? Do they believe that it can cure or benefit the diseases in the list hereafter enumerated?

If they do not believe it, if they do not approve of the Law "literature," with its suggestions, with its insistence on the importance of the female form, with its intimations that the use of Viavi remedies will increase sexual pleasure, with its hints that wasting testicles can be benefited, and tumors of all kinds cured; with its insinuations, nay, statements, that child-birth can be controlled; that a woman can, through Viavi, become so "healthy" that she may "limit the number of offspring;" with their claims of benefiting suffering humanity and advising women never to have a tumor removed by the knife until, alas, it may be too late for the beneficent surgeon, and the victim of the false ad-

vice is claimed by death; if, we say, they do not approve of these things, what must be their thoughts, and the thoughts of the members of the Merchants' Association when they sit at dinner in the Fairmont Hotel on the night of April 18th, as we are told they will? Will they think of the matters treated of in this article and of the basis of the fortune of the Laws, or will they say "money talks," and think of what successful business men are the owners of the hotel in which they dine?

Will they care *how* the money has been garnered? Will they question whether the Law brothers are benefactors of humanity, or merely successful in making money out of the sick and suffering?

Arthur McEwen has said that any "Front street merchant" would prosecute his chief clerk for embezzlement for the mere crime of emulation! Perhaps, business men of this city, pillars of our municipal society, you do not care how people become rich, so that they *be* rich.

Perhaps, so long as a man does nothing actually criminal, nothing for which he could be sent to jail, our "merchant princes" do not care by what means wealth is acquired.

Gentlemen, do you, or do you not, approve of the manner of the money gathering of the Law brothers?

In closing, we must apologize to our readers for printing in the JOURNAL the excerpts from the publications of the Messrs. Law which we have made, for to us they seem salacious in the extreme.

As illustrating the extraordinary extent of the claims of the promoters, the one a life member of the Chemical Society and the other a director in the Young Men's Christian Association and a member of the faculty or directorate of the Hahnemann Medical School, San Francisco, we append a partial list of the various diseases which the published "literature" of the Viavi Co. states, either directly or by inference, that the Viavi system of treatment will cure:

The correction of improper or injurious pre-natal influences, curvature of the spine, spinal irritation, pain in the coccygeal region, paralysis of all parts of the body, amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia, congestive dysmenorrhea, membranous dysmenorrhea, flooding, versions of the uterus, inflammation of the ovaries, vicarious menstruation, non-development of sexual organs, chlorosis, epilepsy, metritis, subinvolution, all forms of inflammation of the womb, abdominal adhesions, leucorrhea, all flexions of the uterus, prolapsus of the uterus, peritonitis, ovariitis, salpingitis, vaginitis, vaginismus, prolapsus of vagina, pruritus, cystitis of any variety, urethritis, caruncles, lax abdominal walls (ptosis?), used by the nursing mother it prevents diseases of suckled infants; mastitis, miscarriage, sterility, prevention of lacerations, cure of laceration of the cervix, "external lacerations," cervical cancer, cancer of breast, etc. (Note—"Viavi Hygiene," page 366. "We do not wish it to be understood that the cure of cancer comes within the clinical range of the Viavi system of treatment. It is a fully established fact, however, that the treatment has cured many cases diagnosed as cancer." This seems to be so constructed as to ensure the complete delusion of the unfortunate incurable, or the sufferer who might be cured by early operation); tumors of all sorts and in all locations, hemorrhoids, prostatitis, orchitis, atrophy of the testicle, affections of the male generative organs not traceable to venereal diseases, nervous debility, neuralgia, headaches, insomnia, appendicitis, paralysis, paresis, locomotor ataxia, asthma, palsy, obesity, offensive breath, varicose veins and ulcers, catarrh, colds, nasal polypi, hay fever, deafness, bronchitis, pneumonia, consumption, dyspepsia, gastritis, constipation, diarrhea, catarrh of the bowels, diabetes, albuminuria, abscess of rectum, fistula, prolapsus of rectum, sphincterismus, pruritus, stricture of rectum, cancer of rectum, rheumatism, lumbago, prevents inflammation and blood poisoning after serious injuries—"no necessity for amputations"—sprains, scalds and burns, infantile paralysis, incontinence of urine, croup, biliousness, skin diseases, earache, inflammation of outer ear, hardened wax, rupture of tympanum, inflammation of middle ear, eye strain, eye injury, conjunctivitis, granulated eyelids, iritis, ophthalmia neonatorum, pterygium, ozena.

THE PHYSICIAN AND THE NOSTRUM.*

By EDWARD BOK, Editor of the Ladies' Home Journal, Philadelphia.

During the four years that we have been engaged in the work of arousing public interest in the evil of "patent medicines" it has been my pleasure, in common with others, to have received hundreds of approving letters from physicians all over the country and scores of complimentary resolutions from medical bodies. And it is my sincere hope that the few words I shall say to you this evening, in my first appearance before a medical body, may not be accepted as being in any way unappreciative of those marks of approval. I appreciate and value them.

But I feel that the time has come, if we are to succeed in the fight in which we are engaged, to be perfectly frank as regards the relation of the medical profession to proprietary medicines. I am going to try to point out to you that in two distinct ways the medical profession is today absolutely hindering us laymen in our fight and clogging the wheels of further progress: First, in your inactivity where you should be active, and, secondly, by your direct co-operation with the "patent medicine" traffic.

Every man knows that the life of a nostrum depends on publicity, and one of the first things we did in our fight was to see to what extent the press could be persuaded to close its columns to the advertisements of "patent medicines." It was not easy, for the business office of a paper or magazine is very powerful. Yet today scarcely one of the reputable monthly magazines will accept a "patent medicine" advertisement, and the same is true of the prominent weeklies. The best of the farming papers are today immune from this advertising. Pressure is being brought on the religious press that will soon result in a general clearing up of those papers. Progress with the daily newspaper has been slower; still, there are forty-three daily papers, large and small, today that will not accept "patent medicine" advertisements. Now, gentlemen, remember that such a step means a great deal in the revenue of a periodical. I know a magazine that could easily increase its advertising revenue six figures a year if it accepted "patent medicine" advertisements. I have no doubt that if the New York Times and Philadelphia Ledger admitted this business these two papers could increase their revenue by at least \$50,000 a year. Many of these papers and magazines have taken this stand on principle; others because of the pressure brought on them by their readers. The public at large has been writing to its newspapers insisting that those advertisements shall stop; the church people have been writing to their papers; the farmers have been writing to their papers—all classes of the public have been busy; all classes, gentleman—except the physicians.

Look at your average medical paper—reeking with the advertisements of proprietary—so-called ethical—preparations. And not only advertisements, but

reading notices palpably intended to deceive. The very class of papers that should have been the first to cleanse their pages is today the last to make even a move in that direction, and stands today, in this respect, as a discredit to honest journalism.

Now, what is the result? I go to the publisher of a newspaper and ask him to clean his columns of "patent medicines," and he points, as he has done in many cases to me, to the medical press. "Why, man," he argues, "these preparations can't be so bad as you fellows make out, or they wouldn't be advertised in these medical papers. These medical publishers know better than you do what is good and what is bad in these 'patent medicines,' and what they allow to go into their papers I guess we can safely stand for." That is why it is so important that the medical press should be cleansed of these advertisements: it is in the influence, the example that they exert on the lay press, and it is an argument on the part of the lay publisher that is very difficult to combat. It is this argument that again and again is used by lay publishers in writing to their protesting readers, and then these readers send the letters to me and ask, "Is this true? Are these advertisements permitted in good medical papers?"

Now, you know that it is true, and you know also that it should not be so, and yet what have you, physicians, done to stop it? You have, in your societies, passed resolutions, a very easy and comfortable thing to do and about as ineffective as it is comfortable. I have myself seen these resolutions received by the medical publishers, and disposed of with a grin—in the waste-basket. But what have you done as individuals? For let me tell you, as an editor, that the editor or publisher of a paper of any kind is mighty sensitive to the individual protest of his readers. When letter after letter comes in harping on the same subject, take my word for it: that editor or publisher is going to sit up and listen. Those letters are from the people on whom he depends for his support, and he is not turning a deaf ear to the source of his livelihood.

Let me give you an illustration of how this works. One of the most prominent daily newspapers began to get letters from its readers objecting to its "patent medicine" advertisements. The first few letters made no impression on the publisher, but as they kept coming in he realized that he had to make some sort of a show of being good. So he declined the most flagrant. When this fact became known to one after another of the "patent medicine" manufacturers, they argued that if this newspaper found it necessary to trim its sails to appease the public, it was idle for them to advertise at all to a public in that state of mind. So they stopped, and they have stopped so effectively that the publisher of another newspaper, which readily takes any "patent medicine" advertising it can get, told me a few weeks ago that, while his paper had carried in the first eight months of 1905 over sixty-two thousand dollars' worth of "patent medicine" advertising, this year for the same eight months he had carried eighteen thousand dollars' worth. That is what can be done.

*Read, by invitation, before the Philadelphia County Medical Society, December 12, 1906. A report of the papers and discussion at this meeting on the Symposium on the "Suppression of Quackery" appeared in the Journal, January 19, 1907, p. 248.

Now, while the people at large have been busy with their papers, I have not heard of a single well-ordered and coherent movement on the part of the medical profession individually to do the same work with its papers. You have talked beautifully, but what have you done? The best proof of the fact that you have done practically nothing is shown in the condition of your papers, and yet, gentlemen, it was your duty, more than the duty of any other body of men, to do this. It is no excuse to say that physicians are too busy. There are men in other professions just as busy as you are. You have been inactive. You have allowed us laymen to work with our papers while you have sat idly by, or made desultory attempts, where you should have taken a vigorous individual stand and stopped it. And you can stop it if you make an honest effort. You are the supporters of these papers; without you they can not exist, and on you, directly and solely, rests the responsibility of the present situation that we as laymen can scarcely go any farther with compelling the cleansing of our papers so long as those papers can point to the medical press as its companion in perfidy.

You have two ways open to you:

Either insist as subscribers and readers that these papers shall cease these advertisements.

Or stop, as physicians, from prescribing these medicines yourselves and thus make this advertising unprofitable. Or both.

And this brings me, naturally, to my second point; your direct cooperation with the "patent medicine" curse—a cooperation that I confess, gentlemen, is nothing sort of appalling. I give you my word for it that as one result of my investigation of this question there has come to me an amount of evidence as to the unintelligent prescription of secret proprietary medicines on the part of physicians that, if published, would tend to cause an amount of unrest and distrust on the part of the public that is mighty unpleasant to think of.

It is not for me, gentlemen, to diagnose the reason why physicians habitually prescribe proprietary preparations. Several of your own writers claim because it is easier; others because physicians are lazy, and still others that your medical colleges do not adequately teach the writing of prescriptions. I do not know, for I am not competent to say, but what I do know is that this prescribing of these preparations seems to be on the increase to an alarming extent. You own Dr. Jacobi says that in twenty-five years the percentage has grown from one in fifteen hundred prescriptions to 20 and 25 per cent. He also says that in a single New York drug store investigation showed that "70 per cent of the prescriptions sent in by reputable physicians contained either nostrums, pure and simple, or as a part of a compound." Doctor Billings, of Chicago, says that in his city the records of one drug store showed 42 per cent of prescriptions prescribing proprietary medicines, and in another 50 per cent. In Boston 38 and 48 per cent.

Now, gentlemen, I will not gainsay that there

are good proprietary preparations and that a physician, after a diagnosis of a case, and knowing his patient, and being fully aware of the exact ingredients in such an ethical preparation, is perfectly justified in prescribing it, if he feels that it meets the conditions of that case. Whether such a course is detrimental to scientific medicine is for him to settle with himself.

But there is a time when he is not justified in such prescription, and when he closely borders on the criminal line, and that is when he prescribes a preparation of which he either does not know the ingredients, or, what is even worse, when he has erroneous information as to those ingredients.

And yet this prevails today in the medical profession, and prevails to an extent that is almost impossible of belief to the layman. When I heard the first mutterings of this condition of things I gave it no credit. While I knew that physicians were human and made their mistakes in common with us all, I could not believe that they could make *that* mistake. But instance after instance came to me until I could no longer turn aside, and I determined to find out. And recently I did.

Conditioned that I should not reveal my source of information nor give names of remedies or physicians, I was given an opportunity to examine 100 prescriptions that had been filled. Of these 100 prescriptions, 42 prescribed a proprietary drug or article in part or in whole. I selected 30 of these, and called on each of the physicians who had written those prescriptions. Now, gentlemen, those physicians were men of excellent standing, some very high in their profession, and how many of those 30 physicians, would you say, gave me an accurate, or anything approaching an accurate, analysis of the ingredients of the nostrums which they had prescribed? How many? *Two*, gentlemen, *two* out of all the thirty! The rest either did not know, or—what is even more dangerous—thought they knew when they did not.

One of these prescriptions called for a certain headache remedy, given to a woman who was in an exhausted condition, who had weak heart action, and who, having read of the dangers of headache remedies, did not trust her own judgment, and called for her family physician. He gave her a remedy, saying that he knew it to be harmless, that it was entirely free of the powerful drugs of which she had read. Within a half hour of taking the remedy the woman's lips began to get blue, she went into unconsciousness, and it required all that two doctors could do to bring the woman back to consciousness. The remedy contained 61.5 per cent of acetanilid! The physician, when I saw him, showed me his proof on which he had based his knowledge, the statement of the manufacturers, whom he said were reputable people!—a statement, as I happen to know, written by a man who never went to a medical college, a man whose word every physician would scorn to accept did he know him. When I showed him my analysis he was dumfounded, and confessed he hadn't known. *But gen-*

tle men, he should have known. It was his duty to know!

Another prescription called for a certain tonic that the physician told me was one of the most reputable tonics known to the profession; its ingredients of quinin, beef and iron were universally known and nearly all physicians prescribed it. One of its greatest virtues was, he told me, that it was non-alcoholic. I proved to him that the tonic did not contain even a trace of beef or iron, but that it did contain 22 per cent alcohol. He could not gainsay my authority; he was surprised, and confessed that he had not known. *But, gentlemen, shouldn't he have known?*

One of these prescriptions gave to a child a remedy calculated to soothe restlessness. It did so, so effectively that the parents changed their physician, went to another, who prescribed another remedy, and the child lay in a stupor for two hours. I saw both of these physicians; they confessed to me they did not understand the case. But I did, gentlemen, for both of these physicians had given that child morphin concealed in "ethical" proprietary preparations, and when I proved this to them they were amazed and confessed they hadn't known. *But gentlemen, should not a physician, prescribing for a child, know?*

Five of these prescriptions called for a certain tablet supposed to build up the system in extreme cases of weakness, and especially given to women at certain periods of physical drain and exhaustion. All of the physicians assured me that these tablets were among the few ethical preparations that could be absolutely trusted, and each showed me a printed formula of their contents. These tablets, I was told, contained, among other things, iron peptonate, two purely vegetable compounds, and extract of nux vomica. "The best on the market," said one of these physicians to me. As a matter of fact, those tablets contain not the slightest trace of iron peptonate or nux vomica, but do contain two principal ingredients—starch and liquorice! And yet, gentlemen, these same tablets, I have learned from careful and authoritative sources, are today being prescribed by a large number of the best physicians of Philadelphia, and when I have asked several of them on what authority they were accepting their ingredients I was shown a printed formula by the manufacturing concern!

Some time ago, finding it necessary to know about a certain nostrum advertised to the public, and having no time to make an analysis, I consulted five physicians in order to reach a necessary decision. All five physicians told me that the preparation contained a dangerous amount of cocain in it; that it was well known for containing that ingredient. I made my decision—only to find that I had made a wrong decision. The preparation contained not a trace of coca or cocain and never had. *Gentlemen, these physicians did not know. But they should have known, or else not have said what they did.*

And so I might go on; not isolated cases, not a

case here and a case there, but a condition that is dangerously general.

Now, what is the result? The physicians are doing precisely what we are asking the people not to do: not to use these "patent medicines," because they do not know what they contain. What effectiveness can I make to such an argument when people write to me by the score citing instances of revealed ignorance on the part of the physician of the preparation which he prescribes, and rightly say to me, "How do you explain this?"

Can I explain it, gentlemen?

Dr. Jacobi calls this practice not far from criminal, and I would rather have him say it than say it myself. But it is a mighty serious condition, and nothing confronts us laymen in our fight so insurmountably as this argument that can be advanced against the medical profession.

We are trying to separate the public from the nostrum, and have in a measure succeeded. But what are you doing? Now, let me bring this question home to you—home to the physicians of Philadelphia. Are you aware of the fact that this practice of prescribing nostrums has so insidiously grown on you that while in 1905 an examination of several thousand prescriptions written by Philadelphia physicians showed 41 per cent to call for "proprietarys" this year, so far, the average shows 47 per cent? Are you going to do more and more each year what we are asking the people not to do? If you are going to prescribe "patent medicines," why should the layman pay your fee as a physician in addition to the cost of the medicine which he can buy himself? We are preaching to the public to stop the nefarious habit of self doctoring, but physicians, by such methods as these, are driving people to doctor themselves, driving them to the quacks and charlatans. There is no question that the whole practice has grown out of thoughtlessness. But has not this thoughtlessness gone far enough?

Evidently, gentlemen, the Council on Pharmacy and Chemistry of your national association was created none too soon. But even without access to the analyses of the council, the physician has no excuse. Opportunities are open to him to learn the ingredients of the medicines he prescribes, and if he has no time to find out he has no right to prescribe what he does not know.

And so, gentlemen, you who should be with us laymen in our efforts to stamp out this evil, are not only making our fight the harder, but you are actually hindering us. We look to you for help, as I think you will agree we have a right to do in our effort, and what do we get from you?

Unctuous words, but unclean hands.

Now, I ask: Is this fair? Is it playing the game, gentlemen?

You are here tonight to discuss the question of the suppression of quackery, but it seems to me you have chosen the wrong topic. Your question should be the suppression of the physician in his aid of quackery.

WORDS ON OPSONINS*

BY PORTER, M. D., San Francisco.

I am honored by the committee in charge of the meeting to present a paper on opsonic index and opsonin in medicine. The paper must of necessity be a compilation drawn from other men's work, and is chiefly indebted to my friend, Dr. G. B. Wright, for any knowledge I have on the subject. Opsonin exists essentially for clinical purposes, and as I am not doing the opsonic work at present, Dr. Mace has kindly covered for me the various steps in the technic, and I will touch on this side of the subject.

That defense of the body against bacteria is a complicated and multiple one has been known to pathologists. Erlich put forth the theory that where bacterial intoxications occur, the toxins of the invading organisms enter into chemical combination with the cells of the different tissues. There are many toxins which have a specific selective power; some on nerve, some on muscle, and undoubtedly some, which are less specific, such as poisons of mumps and leukemia, which attack lymphatic and gland tissues. While Erlich's theory will explain the processes of immunity in cases such as eventuate in diphtheria and tetanus, it does not explain how different bacterial toxins are combatted. We know that the cells of the body produce in the body a number of antibodies which Wright has called antitropines, and these are specific each against the poison which produces the disease. Among the antitropines we have the well-known diphtheritic antitoxin and the bodies which cause the agglutination of bacilli on which the Widal reaction is based; others called precipitins which cause the precipitation of toxins in combination with albumens; the lysins, which have the effect of dissolving invading organisms; and last, the opsonins, of which we are to speak more fully.

It has been for many years, in fact, since about 1890, that it has been maintaining that immunity in all cases is entirely dependent upon the phagocytic action of the white blood corpuscles. Erlich, while recognizing the fact that the phagocyte plays some part in the production of immunity, has also been insisting that it was but a minor one. For many years the Russian pathologist claimed that the phagocyte was the only factor in the phagocytic process and the only agent in the process of immunity, but the work done by Erlich and by his many followers has forced him to admit the presence of antitropic substances in the body fluids, although he believes that these antitropines are secretions or excretions of the white cells.

In 1903 A. W. Wright, who was then the Chief of the Pathological Laboratory of the British Army, and Douglass, presented to the Royal Society a paper in which they showed the following facts: First, that the white blood corpuscles, free from all serum, had no power to ingest staphylococci. Second, that the addition of a small amount of blood serum to the staphylococci caused the bacilli to be readily ingested by the leukocytes. Third,

that the substance in the blood serum that enabled this phagocytosis to take place was thermo-labile and became impotent on being heated 60 degrees C. Fourth, that the serum did not act upon the white blood cells, but upon the streptococci. Fifth, that the plasma and the blood serum acted equally well; and they concluded from these experiments that the power of phagocytosis rested not in the white corpuscle, but in the reaction of the substance found in the serum to the invading organism. In their communication to the Royal Society they chose to call this substance opsonin from the Greek word signifying "I prepare food for," with the idea that the name should be illustrative of the power this substance has of making the organism fit for ingestion by the leukocyte.

The first work, as I have said, was done on staphylococci, and it was shown that in cases of general staphylococcal infection, furunculosis, syphilis, carbuncle, and in fact any local staphylococcal infection, that the amount of opsonin present was markedly diminished. The plan was devised of comparing the power of phagocytosis in healthy corpuscles from the same individual when activated respectively by a pool of serum from several healthy persons and serum from an individual with a staphylococcal infection. The average number of staphylococci ingested by healthy leukocytes when activated by healthy serum from a large number of individuals was found to vary very little, provided always that the conditions of the experiment were the same. This ingestion of staphylococci was taken as the standard and the ingestion of staphylococci by the same corpuscles when activated by the serum of an infected individual was compared with it, and the resulting quotient represented the opsonic power of the blood of that individual for the staphylococci. This quotient is what is known as the opsonic index. Wright developed his methods by working with staphylococcus because it is the easiest of all the organisms to deal with under the circumstances demanded. But he soon carried the work further and showed that the opsonins are produced in the blood by the invasion of other organisms. In fact, the only ordinary pathogenic organism, I believe, for which he has not been able to find an opsonin is the diphtheria bacillus.

The most important application, so far, of this method of determining resistance of the body to infection, is in relation to tubercular infection.

Wright and Douglas, Bullock and Atkin, Ross and Freeman, and within the last year many workers in this country, especially Hektoen and Potter, have busied themselves with developing a method of making these determinations applicable to tubercular patients.

The technical difficulties are great. There is great difficulty in getting proper cultures of the tubercle bacillus. There is difficulty when one has the proper culture in preparing an emulsion of the tubercle bacillus which will not clump, and much ingenuity has been exercised in overcoming this.

Curiously enough, in tuberculosis the opsonic index may be either very high or very low, de-

* Read at the Polyclinic Gathering.

pending upon whether the infection is local or systemic. Local tuberculosis such as lupus, glands, early tuberculosis of the lungs, early tuberculosis of the bone, show a low index. The late tuberculosis of the lung shows a variable index, sometimes as high as two or three times the normal; at others equally low. The practical point in all this work lies in the relation of the opsonins to treatment. Wright and Ross and Bullock, treating large numbers of cases of different kinds of tubercular infections by inoculation methods controlled by opsonin determinations, have had much success. The same is true of Hollister in this country.

The idea of treatment is to increase the opsonins in the patient's blood so that the bacteria meeting these will become an easy prey to the white cells which have heretofore not been able properly to perform their work of phagocytosis. The method has been especially successful in cases of lupus. The plan is as follows:

The patient's opsonic index is determined: he is then given a measured amount of a vaccine composed of the dead and sterilized bodies of tubercle bacillus. These dead cultures are readily obtainable in the market in the form of Koch's tuberculin R. You will say that Koch's tuberculin antedates the opsonic theory and vaccinations with tuberculin R., have often proven disastrous to patients; this is very true, but any very powerful drug used empirically may become destructive to patients. The great value of Wright's method is that he is enabled to measure the effects of the dose and to give the tuberculin in a rational as opposed to an empirical manner. Having determined the opsonic index of his patient, he inoculates not to exceed 1-1000 of a milligram of dry tuberculin and then he takes the opsonic index of that patient to the tubercle bacillus daily.

It is the invariable result of the first inoculation that the opsonic content drops very markedly and remains low for some time, varying with the different type of case and with the individual. The drop in the opsonic content Wright calls the negative phase, but this within a short time rises and goes well above the normal. Now if while the patient's opsonins are rapidly descending, a second injection is given there will be a still further decrease in the opsonic power and a further injection still may overwhelm the patient and make him unable to fight the invading process. But if the opsonic index is watched and the second inoculation is given while the opsonic index is rising above normal, there will be a still greater rise and the defensive power will become much increased and the patient as a rule will go on to a better condition. The value of the opsonic method is here evident as a control to the inoculation.

From the work that is being done we are coming to learn that not only tubercular and staphylococci infections may be combatted, but a case Ross has recorded of a chronic empyema due to pneumococcus which cleared up promptly under vaccinations with dead pneumococci, controlled by opsonic determina-

tions to pneumococci, shows that this method will be valuable in localized pneumo-infections. Other work done leads us to hope that the chronic joint infections due to invasions by Neiser's coccus may also soon be efficiently treated.

In fact, there is every reason to hope that in vaccination controlled by opsonin determinations we have a therapeutic method that will give us power against many of the infections over which we now have no control. Besides the therapeutic gain, the diagnostic value is great as evidenced by a case of sycosis Wright reports in which, when he found the opsonic index high for staphylococcus, he tried it for tubercle and, finding that index low, was enabled to diagnose a tubercular sycosis and to cure it with tuberculin. Ross' case of pneumococcus infection is another, and I have no doubt cases of hip joint disease will be earlier and more positively diagnosed because of our ability to determine this index. It has already been shown that children of tubercular mothers have on the average an index but half that of those whose mothers are not infected, and that the index of bottle-fed infants against a number of bacteria is less than that of the breast-fed. And so we have explained rationally a well-known clinical fact. Undoubtedly we will soon test out the effect of many remedies on the activating power of the serum. It will be interesting to know whether the colloid metals gain their potency as agents in septicemia by a power to increase the opsonic activity of the serum. So high an authority as Welch has proclaimed Wright's discovery the greatest in medicine since Koch gave us knowledge of the tubercle bacilli and the means to isolate and study them. Personally I think that he understates the importance of the work, and that we have in the method of Wright and Douglas a technic that will overturn much of our therapy and supplant it with a method of treatment at once rational and efficient.

OPSONIC TECHNIC.*

By LEWIS SAYNE MACE, M. D., San Francisco.

The method of estimating the opsonic content of blood serum elaborated by A. E. Wright of London is briefly as follows:

The washed white blood cells, or leukocyte cream, is prepared by drawing ten or fifteen drops of blood from a normal individual into a small centrifuge tube filled with a 1.5 per cent. sodium citrate solution in .85 per cent. sodium chloride, shaking thoroughly and centrifuging about five minutes. The citrate solution is pipetted off and .85 per cent. sodium chloride added, the tube thoroughly shaken and again centrifuged. The red cells, being heavier, are thrown to the bottom of the tube and on top of these the leukocytes are seen as a thin gray film. These washed corpuscles are pipetted off and placed in a watch glass.

The bacterial emulsion in the case of tubercle bacilli is made by removing the growth from a culture with a platinum loop and thoroughly grinding

* Read at the Polyclinic Gathering.

up in a mortar moistened with 0.1 per cent. sodium chloride solution, drops of the sodium chloride solution are added from time to time and the grinding continued until the clumps of bacilli are broken up as thoroughly as possible. The emulsion is then placed in a test tube and heated to 100 degrees for five minutes and sealed until ready for use.

When preparing for an estimation, the tube containing the emulsion is thoroughly shaken and centrifuged a few minutes to throw down the clumps. The upper layer, which should be quite opalescent, is pipetted off and placed in a watch glass.

The serum to be tested is obtained by making a light stab with a sharp capillary glass tube in the top of a finger near the nail. The blood which flows readily, is collected in a glass capsule having curved capillary ends, which are sealed when the capsule is about two-thirds filled with blood. It is then allowed to coagulate and hung by its curved arm over the ring of the centrifuge and revolved until the clear serum has collected above the clot. The top is now broken off, the serum removed with a capillary pipette and placed in a third watch glass properly marked. For the control test a glass capsule is filled in the same way with blood of several normal individuals and centrifuged as before. The blood of a number of normal people is used as a control to correct the error of individual variation in opsonic content.

The three preparations, washed white corpuscles, bacterial emulsion and serum, are measured and mixed with a capillary pipette having a mark about two centimeters from the end. The blood cells are drawn up to the mark, then a bubble of air is allowed to enter the tube and the same volume of bacterial emulsion drawn in, then another space of air is allowed to enter the tube and an equal volume of the serum to be tested drawn up and the three volumes carefully mixed by drawing up and down several times upon a slide. Finally the mixture is drawn into a pipette, the end of which is sealed in the flame and placed in the incubator with the control tube, which is prepared in the same way at the same time. After incubating fifteen or twenty minutes, the tube end is broken off and the mixture again mixed by drawing up and down on a slide. Two slides are prepared by smearing as in preparing blood smears, except that the preparation is made much thicker and allowed to dry slowly in the air. In this way the leukocytes can easily be found collected at the outer edge of the smear and counted. The slides are fixed in saturated bichloride of mercury for one minute and stained in carbofuchsin, destained in dilute sulphuric acid, and counterstained in methylene blue.

In counting, it is necessary to count only polynuclear leukocytes and to count only those in which the nucleus lies flat. In this way the error of counting is reduced to a minimum.

The best emulsion of tubercle bacilli is on which in the ordinary time of incubation shows one or two bacilli per cell and which does not contain clumps of bacilli. The length of time necessary for grind-

ing and centrifuging each culture of tubercle bacilli used must be ascertained by practice tests before beginning estimation.

DISCUSSION OF PAPERS BY DRS. PORTER AND MACE.

Dr. Evans—I think we ought to congratulate Dr. Mace on the degree to which he has perfected this technic. No one knows, except those who have tried it, the discouragements met with in this work. There are few points in the technic where he differs from Wright. For instance, the last part of his demonstration regarding the collection of the blood. I should imagine that he would be very apt to burn the blood in this way. Dr. Wright on the contrary, after allowing the blood to run into the capsule, heats the empty portion of it before sealing that end. Then the area cooling the blood is drawn from the capsular end. This work is very fascinating, and anyone who has had the privilege of seeing Wright at work in his laboratory is impressed with the seriousness of the man and with the fact that his demonstrations have been very valuable contributions to modern scientific medicine. It would be impossible for such a one to fail to be convinced that he has demonstrated the existence of these bacterio-tropical substances in the blood serum. It is particularly on the lines of tuberculosis that this work has assumed importance, bringing forth as it does acute indications for exact dosage of tuberculin or other culture products used therapeutically. By following the opsonic curve of individuals under treatment, Wright has demonstrated the fact that much smaller doses of tuberculin are indicated than had been used by those who have relied on clinical evidence alone. A good deal of the work done in London both by Wright and Bullock, who is bacteriologist at the London Hospital, and is an ardent supporter of this work, has been done in the treatment of lupus. Their results with tuberculin in this disease have convinced them that treatment with Finsen light, X-ray and other irritating conditions are of value only by reason of the fact that they produce a hyperemia of the affected part, thereby flooding the lesion with blood rich in opsonic content. I recall one case of a girl with lupus, under Dr. Bullock's treatment, who had a very persistent lesion in spite of her opsonic index having been raised above normal as the result of the use of tuberculin. An ordinary old-fashioned poultice was sufficient to flood this lesion with opsonines, thereby causing very rapid recovery, when the fact was appreciated that hyperemia of the lesion was all that was necessary.

The practical difficulty in the way of the use of this valuable discovery in private practice is the difficulty, the result of the complexity of technic, and it is to be regretted that until this technic is very much simplified the opsonic work of Wright can not be placed in daily use by the busy clinician.

Dr. Porter—When you have a patient in whom you suspect tuberculosis, a low or variable opsonic index will give you confirmatory evidence. Wright has especially called attention to the fact that at times when a number of joints are affected, gentle massage of a single joint will cause not only that joint but other affected joints to improve. He attributes this to the fact that the massage has inoculated the patient to a slight degree. It is of some interest to know that it has been shown recently by Ross that an infant born of a tubercular mother has an opsonic index about equal to the mother's, which gives us an explanation why tuberculosis has been considered hereditary.

Amburg has shown that a bottle-fed baby has an opsonic index to all infections lower by far than a breast-fed baby. These facts explain a great deal

that heretofore has been conjectural. As to the statement of Dr. Evans that most work has been done on lupus, there has been a considerable amount done on lupus but an equal amount of research by Ross and others has been done for diseases of the chest in late and early tuberculosis, in which it has been shown that in tuberculosis of the lungs and in early disease of the bones we do get very definite and positive results, both diagnostic and therapeutic.

THE NAUHEIM TREATMENT OF ACUTE AND CHRONIC HEART FAILURE.

By PHILIP KING BROWN, M. D., San Francisco.

The Nauheim bath in connection with graduated and resisted movements has won a definite place in the treatment of chronic heart failure, and each year sees a wide range of heart cases favorably influenced by some modification of this system. The reproduction of the essential components of the bath in the form of easily-handled salts has permitted the bath to be taken to the patient, instead of the patient having to undergo the frequently exhausting journey to Nauheim, and the effort even when comfortably housed there of getting to the bath houses for treatment. It is of the artificial Nauheim bath that I wish to speak chiefly.

There are at Nauheim three principal springs used in the bath treatment, differing in chemical composition and in temperature. The ones most used are known as No. 7, No. 12 and No. 14. All are alkaline, effervescing springs of a temperature of 87 degrees to 92 degrees, and it is the active ingredients of these springs that most of the artificial Nauheim bath products seek to reproduce. The common form that most of these reproductions take, is illustrated by several of those that are extensively advertised, and which are merely two-pound packages of bicarbonate of soda and $1\frac{3}{4}$ pounds of acid sodium sulphate put up in the form of flat, round cakes and wrapped in oiled paper or tinfoil, or both. This protects them somewhat from moisture and from the action of the soda. The objections to this form of the bath are, that the chlorides, which form an important part of the ingredients, are omitted. The reasons are simple. The potassium and magnesium chlorides are expensive; the seven or eight pounds of sodium chloride which are necessary are very heavy, and the calcium chloride has so strong an affinity for water that it is handled with difficulty, besides being very irritating to the skin when handled in its solid form.

At Nauheim the calcium salt, known as "mutter lauge" is not a natural ingredient of any of the springs in sufficient quantity to be effective in the bath, but is added to the bath after it is drawn. It is a by-product of a neighboring chemical works, and is used because of its stimulating effect on the skin, augmenting and prolonging the effect of the CO₂ effervescence. Its import as a part of the bath is reflected by the bath attendants and patients alike, the latter often paying a few pennies for a more generous measure of the fluid. A further objection to the artificial

bath lies in the poor way the acid sodium sulphate is packed. Unless it is kept in a dry place it is bound to absorb moisture and crumble, and the free sulphuric acid escapes from the inadequate covering, leaving the cakes too weak to react later in the soda solution.

A use of two of the different forms of the bath for a year led me, on account of unsatisfactory results, to try the production of gas by releasing acid from bottles in a soda solution. This gave a very uneven effervescence, and it was hard to regulate it. Besides, the acid was hard to handle. At this point, I enlisted the services of R. R. Rogers, then professor of chemistry at Cooper Medical College, and we began a series of experiments to obtain more reliable acid sulphate and a means of handling it and the calcium chloride. To Mr. Rogers is due the credit of devising a paraffined paper box, the cover of which is put on after the acid sulphate or calcium chloride is put in, and while the paraffine is still warm. This enables it to be sealed in air-tight, and it requires no handling when the bath is prepared, for each box contains just enough for one bath. The acid sodium sulphate which we used at first was a waste product obtained in the manufacture of sulphuric acid by the old process of boiling. Before all the H₂ SO₄ has been removed, a point is reached when it is no longer profitable to continue the extraction, and at this point the product has about enough acid component to serve our purpose. It had the advantage or disadvantage of containing a good deal of iron, as the boiling is done in iron kettles, and this precipitates out in alkaline solution in the form of a heavy, rust-colored sediment. In this form it is a component of certain of the springs at Nauheim, but probably it has no advantage, and it is certainly disturbing from the point of view of cleanliness.

To obtain an acid sulphate free from iron, it was necessary to boil Glauber salts with sulphuric acid. A proper proportion can be estimated readily, and the end product when packed in the paraffine boxes will keep indefinitely without change. The proper proportion of the chlorides of potassium and magnesium was obtained in a sea salt in which the potassium and magnesium chloride existed as impurities. With the materials properly packed, it is a very simple matter to grade the strength of baths, as is desirable in the beginning with bad cases.

The advantages of the whole treatment at Nauheim are very great in a class of patients with nervous heart troubles who are better off far removed from social and business responsibilities. The hotels and private hospitals there are comfortable, some of them even quite luxurious, and it is certainly true that it is easier for some patients to do what every one about them is doing. Against this advantage is the distance to Nauheim, making it prohibitive in a large range of acute cases and in advanced chronic cases still in condition to be benefited by the treatment; the closing of the baths in winter; the effort of reaching the baths from the hotels, even when wheel chairs are used; and the lack of supervision in the bath, for the patient is turned over to an ordinary

bath attendant, with a prescription on his bath card from the doctor for a certain bath of a given temperature for a definite time. In my experience so much depends on the way the bath is given, and so much can be done by the attendant to make the bath effective, that I am convinced the patient needs supervision while in the bath. I have had treatments at Nauheim and at home and have had them given for me here by a number of supposedly trained people, and it has been a matter of astonishment to me how much difference there is in the result when the same patient is handled well or badly in the bath. For this reason I never encourage the Nauheim treatment except under favorable conditions and administered by a skilled nurse who understands the importance of watchfulness and the effects which the bath and movements are expected to produce. Under proper conditions, treatments may be given to patients even at the bedside, using a folding rubber tub filled by a hose from the nearest running water. The patient is lifted by two attendants and lowered easily into the tub, a rubber air pillow allowing the head to rest comfortably. This caution is not necessary except in bad cases or with the failing hearts of those with acute infectious diseases.

The cases best fitted for Nauheim treatments are those in which the heart muscle acts insufficiently, either from arterio-sclerosis with changes in the muscle, or dilatation, or poor blood supply from anemia, or poisoning, acute or chronic, particularly after severe infectious diseases or tobacco poisoning, and fatty changes of moderate degree. It has been supposed that fever from any source was a contra-indication for the bath, and in the writings of most advocates of the treatment this statement is universally repeated. It seemed to me, however, that the effect of the bath, which is to slow and deepen the respiration, slow the pulse, increase the volume of blood in the peripheral arteries, raise the blood pressure, increase the urine, and finally to quiet nervousness and restlessness, were just the things one wanted to bring about in many cases where the heart was weak as the result of toxic and febrile causes. Through the kindness of Dr. Ainsworth and the staff of the Southern Pacific Hospital I had the opportunity of trying the effects of the bath on a series of fifteen cases of pneumonia and two typhoids. The results are published elsewhere, and it is sufficient to say that the results were so encouraging that I hope for further opportunity for trying the treatment. It effectually settled the point that there is no risk in giving the bath to patients with temperatures even above 104 degrees, and in all such cases the temperature was reduced about two or three degrees for several hours. Blood pressure determinations showed a constant rise of about 10mm., which was also appreciable for several hours. Slight hemorrhage from the bowel occurred in the two typhoid cases—in one after six baths, and the other after ten—a further evidence of the increased blood pressure, and a sharp warning of this danger in typhoid from the Nauheim treatment. I shall not consider this class of cases fur-

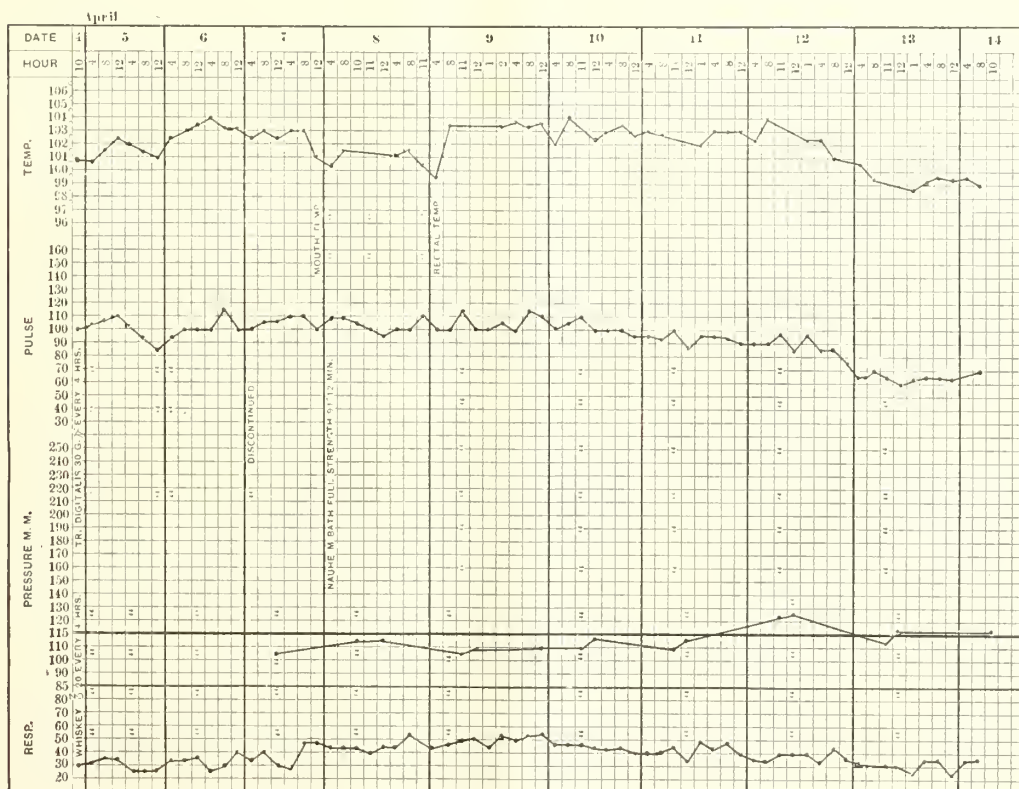
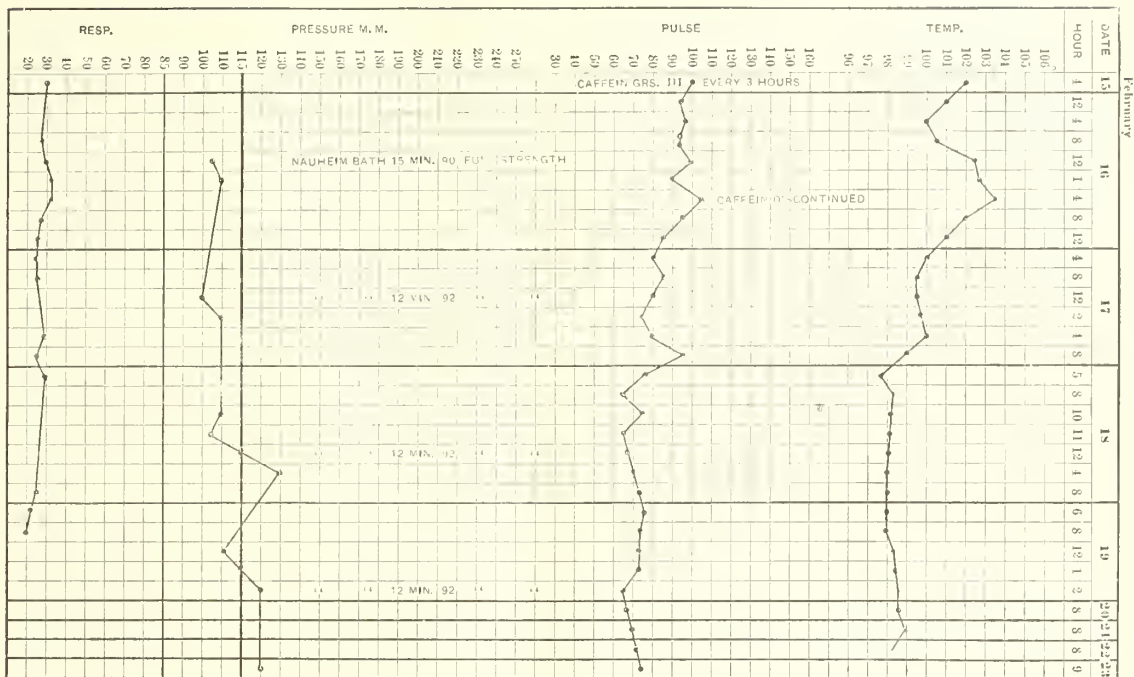
ther, as it is my intention to go into it more fully in the near future.

At Nauheim the patient is supposed to see his physician daily, and after the initial examination he is given a card on which the temperature, duration and kind of bath he is to take are indicated. At each visit his card is again inscribed with the bath data for the next treatment. The movements are given generally some time after the bath, no special system being followed, the convenience of the operator regulating it in most cases. Some of the physicians prescribe no movements, and in conversation with several, and in their printed articles, it is difficult to get much information about their estimate of the value of the movements. To the Schotts belongs the chief credit of developing this auxiliary system of strengthening the heart muscle. The principle back of it depends upon the fact that the heart meets a slight increase in the amount of work put upon it by a more forceful and slower contraction, continuing from a number of seconds to almost a minute. If this effort put upon it is systematically repeated, the heart will meet it by a steady continuance of the slower and stronger contraction. The movements are similar to those used in ordinary gymnastics, the same movement never being repeated twice in succession by the same muscles, and generally they are made first on one side, then on the other. The movement is slow, and is guided by the hand of the person giving the treatment. This guidance is gradually replaced by a certain amount of resistance to the patient's efforts. The resistance is increased or diminished to meet the indications shown by the action of the heart. The dilation of the peripheral vessels brought about by the bath, and the improved heart action, make it usually best to follow the bath after an hour's rest by the movements. This is by no means an arbitrary rule, for certain cases are better affected by the movements given some time before the bath; it may even be wise to give them as nearly as possible half-way between baths. The effect of the movements may be tested by any one in a case where the pulse is rapid, except possibly a case of exophthalmic goitre. In my experience the movements are useful in slowing as well as strengthening the pulse. The problem with heart cases is simply adapting the principle to the individual case.

For a full consideration of the technic of the bath and movements I would refer one to Babcock's book on heart diseases, Thorne's work on the Nauheim treatment, and Groedel's monograph on the same subject.

The following cases serve to illustrate the effect of the treatment on various types of heart cases:

Case 1, P. K. B., aged 36, palpitation and intermission, following severe diphtheria, augmented by the use of tobacco. At the time baths were begun tobacco had not been used for a month. The heart, nevertheless, was omitting every third or fourth beat and the rate was between ninety and one hundred. Blood pressure, one hundred and twenty with Stanton machine. Digitalis had been tried, with the effect of steadying the heart somewhat, but its withdrawal was followed by a return of the rapid action



and intermission. Two courses of Nauheim baths were given; a ten days' intermission between them. Twenty baths in each course. In the first series resisted movements followed the baths twenty minutes. In the second series they preceded the bath. After the first five baths the heart would frequently beat fifty or sixty times without any intermission. The rate for some hours after treatment fell 15 to 20 beats, reaching normal at the end of the fifth beat. From that time on, pulse varied from 72 to 82, being brought down sometimes to 68 after treatment. The second series of baths was carried out in order to study the effect of movements given before the baths. In this particular instance, it was shown definitely that resisted movements had quite the same effect as the bath, but upon evenings that they were not followed by the bath, the effect was not as lasting by several hours.

Two years have passed since the first treatments and during that time, though smoking has been resumed in moderation, the heart has never been intermittent. The second series of baths showed a uniform rise of 10 to 12 mm. in the blood pressure after the bath. The heart rate, which had never been much above 80, after the first course, was improved, so that it remained most of the time in the seventies. The exhaustion after work which preceded the first baths and which had begun to show itself again, was relieved.

Case 2. G. B., aged 47. History of excessive use of alcohol and tobacco, long-continued sedentary habits, obesity, unrecognized pleural effusion after pneumonia, requiring subsequent operation for removal. Heart rhythm fetal in character. Extreme pain and dyspnoea on slight exertion. Diagnosis, fatty infiltration of heart. The effect of the baths is indicated on the accompanying chart, the diagram showing the pulse before and after treatment. Resisted movements were given before the bath. Patient, a year and a half later, without further treatment, is very comfortable. On the Von Norden anti-obesity diet he lost 40 pounds.

Case 3. J. W. W., aged 64, suffering with advanced myocarditis, general arteriosclerosis, subsequently developing intermittent claudication, and finally died of general cerebro-spinal softening manifested as a progressive paralysis. Under my care he had one severe attack of tachycardia. Following this the pulse, which had been in the nineties before, ranged above 100 despite the administration of small doses of digitalis. Nitroglycerin with it had no effect on the pulse. The administration of even moderate doses of digitalis seemed to make the pulse worse, as indicated by the chart. The result of the Nauheim treatment is indicated in this case by the morning and evening pulse, the records of the immediate effect upon the pulse having been destroyed. The patient, who had been bed-ridden for more than two months, was sitting up in two weeks and walking in less than three. Overdoing led to an acute return of symptoms a month later and the symptoms of softening followed rapidly. The case is presented as illustrating that even in extremely advanced myocarditis, benefit can be obtained from the baths, although in such cases they must be given with extreme care.

Case 4. Mrs. M. G., aged 66. History somewhat the same as Case 3, except for the addition of cardiac pain on any exertion. The chart here indicates the rapid effect of the bath, the progressive benefit during the ten days in bed, and the sustaining of the better pulse during the period of activity that followed. This patient was seen on April 16, 1906, one year after the treatments, with a return of the pain and rapid heart action. Treatment was prevented by the earthquake. She died two weeks later of angina before treatment could be begun.

Case 5. Mrs. M., aged 57. Illustrates simply the greater benefit that followed the giving of resisted

movements twelve hours after the bath. The first part of the chart indicates the pulse right after the treatments, in which the movements immediately preceded the bath. The case was one of advanced myocarditis, which had been benefited previously by treatments similar to the first of the series indicated in this chart. One year later, patient's pulse reached 140 in another attack of dilatation. Twelve baths were given, with the extremely interesting result indicated on her chart.

Case 6. Mr. C., aged 44. Arteriosclerosis, locomotor ataxia, palpitation, extremely poor heart tones. In this case the patient was given Frankel movements for a bad ataxia instead of resisted movements. These movements were much more taxing than resisted movements. The chart shows the effect of the movements, judiciously given, on the pulse. In almost every instance they lowered the pulse, which was still further lowered by the bath.

This form of treatment of locomotor ataxia I have given to a number of patients, and while the Frankel movements need no further commending from me, I wish to add that the treatment combined with the bath has served an excellent purpose in relieving a great many of the symptoms of this disorder. I refer particularly to the spasmodic muscular contractions, which are sometimes very painful. It seems likely that the improved circulation is responsible for the benefit.

Case 7. J. F., aged 57. Advanced case of arteriosclerosis with extensive changes in the heart muscles and some renal changes; marked irregularity in the rate and force of pulse; frequently 20 beats in 100 not registered at the wrist. At the time I saw this patient he had been four months in bed, on all manner of heart stimulants, and had had four attacks of acute dilatation with delirium cordis. In the last of these attacks he fell into my hands. At that time his pulse was 120 to 130 when counted with a stethoscope; about 90 at the wrist. The early record of the baths I regret I did not keep. This patient, now nearly a year later, is able to be about and to take light exercise. The heart is still extremely irregular in rate, but the muscular insufficiency is not accompanied by any subjective symptoms. In this case, as in a good many others, the baths were frequently followed by an hour or two of quiet sleep, and for the first time the patient was able to do without hypnotics. The use of opium in such cases I can not commend too highly, particularly in the beginning of attacks that result from over-effort of the heart.

Case 8. Mrs. E. S. H., aged 67. Was seen after a year of intermittent rest and drug treatment for paroxysmal tachycardia due to sclerosis of the aortic arch and aggravated by emotional and gastric disturbances. This patient had twenty baths, not always with the desired result, owing to indiscretions of diet and to emotional disturbances that I could not control. An attack of tachycardia, lasting twenty-four hours, enabled me to try the bath as a means of shortening it. I had given her in one previous attack digitalis and nitroglycerin, without perceptibly influencing the attack, which lasted two days. The attack treated by the bath was shorter than the previous one, but the bath itself seemed to increase the pulse action slightly. Two things were interesting in the case. First, the doubling of the pulse in tachycardia, a fact which I also observed in one other case where the pulse raised from 70 to 140 in one attack of fifteen minutes' duration, and to 280 in an attack an hour or two later. This doubling of the pulse has been called attention to by Hewlett. The second interesting observation is that, although the patient was having two or three of these attacks a month prior to the baths, she has had only one in the five months since. This I attribute largely, however, to more attention paid to the diet.

Case 9. D., aged 40, laborer. Admitted to the

hospital February 15, 1906, 48 hours after a severe chill followed by pain in the left nipple region and a cough with expectoration; he had had no care for two days; loss of appetite, and had eaten but little. Previous history negative; smokes and drinks moderately.

Patient is a strongly-built man, broad, thick chest. Heart condition normal, urine normal. Temperature 102 degrees. Pulse, 100. Respiration, 30. Distinct signs of pneumonia of left side, involving both lobes. Pulse weak and heart tones, though clear, rather weak. Blood pressure, 102. Patient given Nauheim bath, full strength, 15 minutes' duration. He had a crisis on the fourth day. Was given two hypodermics of citrate of caffeine, owing to the feebleness of his pulse on his entrance. Except for this no medicine was given him.

Case 10. D. P., entered the hospital April 4, from S. P. Tunnel No. 1, with the following history: Attack of pleurisy 1904. Patient drinks occasionally to great excess; smokes constantly. Had been working in the tunnel for some months, when on April 1, he was seized with a violent chill; accompanying this was a pain in the left chest, which was increased by coughing; he had a very bad headache and no appetite. He received no attention whatever until four days later, when he was admitted to the Southern Pacific Hospital at 9:30 p. m. At this time his bowels had not moved for two days; tongue was coated. Temperature, 101 degrees; respiration, 30; pulse, 100. There was distinct consolidation of the left lower lobe. He was given a pneumonia jacket and put to bed; mustard and flaxseed poultice to chest. I examined patient the morning of April 7. At this time pulse was 106; blood-pressure, 107; respiration, 40; temperature, 103 degrees. There was a consolidation of the whole left side, which became more apparent in the upper lobe the next morning. His heart condition at this time was fairly good, but as it was the seventh day of the disease and no crisis had occurred, the patient was given a Nauheim bath. His blood pressure the day after the first bath had fallen to 100. The nervous disturbances of the first bath were probably the cause of the increase of fever just prior to the bath. The patient was very comfortable following the bath, and was never at any time thereafter in any critical condition, although the crisis did not occur until the twelfth day. The chart indicates one interesting fact—that from the second day of the bath the pulse and respiration fell steadily. The temperature was influenced for from four to six hours by the bath, and the blood pressure rose steadily.

Conclusions: The Nauheim bath, properly given, with resisted movements, has a distinct place in the treatment of acute and chronic heart failure.

It is of advantage to simplify the treatment, and for this reason it is best given in the patient's home where conditions are favorable.

This admits further of the use of the bath in a much wider range of cases than were heretofore considered possible, particular emphasis being laid on the type of cases represented by cases 9 and 10, both treated for the heart condition of pneumonia by this means.

In spite of the peripheral vascular dilation, the blood pressure is almost invariably raised by the bath in uncomplicated cases of muscular heart weakness. Where the pressure is already high from arterial and renal changes, it is generally the case that the pressure is unchanged. It may even fall slightly. (Cases 6 and 8.)

ALCOHOL: THE EFFECT OF ITS USE AND ABUSE.

By ANDREW W. HOISHOLT, Assistant Physician, State Hospital, Stockton, Cal.

Alcohol, chemically known as ethyl-alcohol, is a member of a group of oxygen derivatives of the hydrocarbons and is closely related physiologically as well as pharmacologically to ether, chloroform, chloral, etc. It has been classified among the stimulants; some have considered it a nutriment, while it has been spoken of by (1) Rubner as a refreshment ("erfrischungsmittel"), and still others have placed it as "genussmittel" (relish), in line with coffee, tea, spices, etc. If alcohol, however, is to be regarded as belonging to the last-mentioned category, it must be taken in certain limited quantities, inasmuch as a daily use of more than 10 to 20 grm. (2½ to 5 drms.) may do harm; hence a daily use, for instance, of a pint of lager beer, which contains 12 to 15 grms. of alcohol, could hardly be considered harmless.

(2) Edwin Faust and Trautmann have proved by careful investigations that morphin and veronal can act as nutriments; there seems, therefore, no more justification for the administration in general practice of alcohol as a nutriment than there is for the use of morphin or veronal for this purpose. The value of alcohol as a nutriment has been expressed in a few rather dramatic words by Prof. Atwater, of Wesleyan University, Middletown, Connecticut, who says, "Alcohol is a nutriment, alcohol is a poor nutriment, alcohol is a damned nutriment." Alcohol as a refreshment does, like tobacco, have the effect of tiding man over the afflictions and torments of life but the trouble is that alcohol, even as a refreshment, is attended with grave dangers to many people because of the difficulty of finding "the suitable dose"—if it is left to the individual to determine this for himself.

The use of alcohol as a medicine has been recommended in conditions of collapse, in typhoid fever, pneumonia, or other cases of heart-failure, in acute and chronic infectious diseases, in loss of appetite from various causes, in certain nervous conditions as sleeplessness, mental depression, attacks of fear or fright, and in certain neurasthenic conditions. Among these various indications it would seem that alcohol in the form of wine acts favorably where the chief object is to maintain life, but it has not yet been fully determined whether Binz is correct when he claims that alcohol increases the amount of the exhaled air and elevates the blood pressure when it is given in moderate quantity (about 2 to 2½ oz. of sherry or 10-15 grm. alcohol). It would also seem that alcohol in doses of 5-10 grms. at each meal increases the appetite for food and stimulates the gastric secretion, except in cases of chronic diseases like tuberculosis. In cases of weakness and over-fatigue of the nervous system, however, Eduart Hirt says there

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is nothing which to such a degree tends to further weaken one as alcohol. When alcohol is given in daily doses larger than those mentioned it has deleterious effects, and with the increase of the dose acts as a narcotic poison the effect of which when long continued is disturbance in the function and a change in the structure of various organs of the body, including those of the nervous system, influencing particularly the psychic life of the individual.

"Who hath woe? Who hath sorrow? Who hath contentions? Who hath babbling? Who hath wounds without cause? Who hath redness of eyes? They that tarry long at the wine; they that go to seek mixed wine. Look not thou upon the wine when it is red, when it giveth his color in the cup, when it moveth itself aright. At the last it biteth like a serpent and stingeth like an adder." (Solomon's Proverbs, chap. xxiii, v. 29-32.) In these few sentences Solomon has given us a very good picture of alcoholic intoxication, which, though 3,000 years old, may even be interpreted to include the symptoms of alcohol-neuritis of the drunkard.

(3) Kraepelin describes the symptoms of alcoholic intoxication in the ordinary state of drunkenness in part as follows: "A difficulty of understanding—*i. e.*, an impediment to the conception, fixing and elaboration of external impressions—a narrowness in the process of thought, an increase of the psychomotor irritability with diminution of physical strength, a disturbance in the finer control over the movements, an excitation of the motor speech—impulses leading to the first traces of flight of ideas and an atactic disturbance in speech, handwriting and psychomotor acts in general, and finally to a marked paralysis. With the beginning of the intoxication a marked feeling of comfort with elatedness develops, which soon changes into an increased emotional irritability with outbursts of passion and suppression of the higher moral feelings, leading to exhibitions of moral depravity." The general course of the intoxication is influenced in different ways by the personal peculiarities. In some cases an appearance of fatigue, drowsiness and motor paralysis sets in early without marked emotional irritability; in others excitability develops which may lead to quarrels and fights. Sometimes when insignificant quantities of liquor have been taken the excitement met with has been extreme and irrational and impulsive criminal acts have been committed. This form of alcohol-intoxication has been described under the name of alcohol-intolerance or atypical acute alcoholism. This intolerance may accompany a diseased organization which is congenital, or it may be acquired through certain diseases. It is especially the hysterical and still more the epileptic neuropathy which causes a diminished power of resistance to alcohol. Injuries to the head also seem to increase the sensitiveness to the influence of the poison. In paralytic dementia, in mania and in dementia praecox we likewise not infrequently find a most exciting influence of alcohol, while confirmed drunkards sometimes develop an intolerance which leads to the appearance of most pronounced intoxication-symptoms where comparatively small quantities have been

taken. Pontoppidan has described two forms of intolerance—alcoholic automatism and alcoholic furor.

Just as cases of the so-called demented form of general paralysis have been more frequently met with of recent years than formerly, while the classical form has become more and more rare, so do we more and more frequently meet with atypical forms of acute alcoholism. This increase may be the result of our "becoming too civilized (increased neuropathy)" or because of the greater impurity of the liquors dispensed in saloons.

The most marked manifestations observed in drunkenness usually subside in a comparatively short time, although after effects may be observed for twenty-four to thirty-six hours. Direct psychological experiments have been made showing that where large doses of alcohol produce effects lasting twenty-four to forty-eight hours, and the administration is regularly repeated after this, the effect of the first dose will continue after the second has been given, and in the course of a few days a condition of lasting diminution in the capacity for mental work in various directions is developed, which, even after the liquor has been discontinued, will only gradually lose itself. This serves to give us a certain understanding of the first commencement of the mental disturbances which we call chronic alcoholism. In the majority of persons who take daily from 2½ to 3 oz. of alcohol traces of psychic disturbances may be detected. The nature of these disturbances may be inferred from the character of the manifestations observed in the ordinary intoxication, to which other mental symptoms become added in the form of loss of insight into the patient's condition, mingled with hallucinations, moral degeneration, craving for liquor, a peculiar vein of humor characteristic of the drunkard, a feeling of innocence as regards his drinking habits, with a transference of blame from himself to the wife, increased emotional irritability, restlessness and instability, together with more or less extensive changes in the different organs of the body, especially in the blood vessels. Upon this chronic inebriety is based a number of peculiar mental disturbances which in their clinical manifestations, at least in part, point toward the cause from which they have originated.

Of these disturbances the one most frequently met with is by far the delirium tremens. The approach of this diseased condition is usually proclaimed by a prodromal state of shorter or longer duration—sometimes lasting weeks—in which pronounced attacks of fear, restless sleep with vivid dreams, increased excitability of the different senses, and usually with disease-insight, the presence of which is an evidence that the delirium tremens has not set in. The dreams as a rule pursue the delirium patient during his waking hours and become so interwoven with impressions from his daily life that it is difficult for him to keep them segregated, and they are often the source of delirious ideas. He shows a jolly loquacity and is precipitate in all his movements. When he tries to tie anything he shows a coarse tremor in the hands and his tongue is likewise tremulous. He complains of jerky pains in

arms or legs and of a sensation of going to sleep in the finger tips. These are all forebodings of the storm, which may be preceded by epileptiform convulsions. Before long the patient, who for some time has been more or less sleepless, is liable to get out of bed during the night and wander about the house in a state of confusion. He is found disoriented and subject to pronounced hallucinations which monopolize his attention more or less completely and are accompanied by a constant restlessness. It is especially (4) visual hallucinations which keep the patient engaged. These are generally zoöptic—animals of all kinds, not always snakes, moving on surfaces or in the air, from large elephants to tiny insects, from giants to pygmies; imaginary coins which the patient tries to pick up from the floor, or wires and cobwebs in the air, keep him busy. The hallucinations are multiple or en masse—wherever the patient turns he finds new objects. They are mobile, constantly moving, fleeting and perpetually fleeing. (6) The diminutive is often characteristic: tiny dogs jump out of the bed, small monkeys and devils are sometimes not larger than a finger. (6) The visual hallucinations occasionally originate from illusional transformation of real sensory impressions—a spot on the floor is a button, and trying to pick this up in vain, he soon finds one lying next to it, and so on until the whole floor is full of them. The hallucinations are easily developed by suggestion; when given an imaginary 25-cent piece he will accept it with thanks and perhaps "lose it on the floor as he tries to put it in his pocket."

Liepmann's phenomenon which is almost pathognomonic of delirium tremens, is based upon the suggestibility of the delirious patient; light pressure made upon the eyeball after the lids have been closed causes the patient to give accounts, upon questioning him, of colored visual hallucinations, which may occur even during the period of convalescence.

Aural hallucinations are met with, but less constantly. They are usually elementary—a noise, shooting, ringing of bells; or he hears his name called, but does not know who is calling him. Occasionally only are the voices audible—scoldings, threats, screams of relatives in pain, etc. Hallucinations of general sensation are more common—insects are crawling on his skin, hair is growing in his mouth, etc. Some of these phenomena may be due to a perversion of the muscle-sense; for instance, the micropia may be caused by a faulty estimation of the innervation of the muscle of accommodation. Just as the hallucinations of delirium tremens show special characteristics so does the delirium itself. (5) As Professor Pontoppidan says, it is markedly incoherent. There is an absence of connection between the ideas which occupy the attention of the patient, so that he may at any time be made to give up his dreams to answer questions put to him with emphasis, but he does so only for a short time when he is again in the midst of his hallucinations. The delirium patient is in constant action and the activity is often characteristic of the patient's daily work, *i. e.*, elements indicative of the profession of each individual being recognized, although he may also busy himself with anything within reach. He

works until he is dripping with perspiration, and shows unsteady fumbling movements and a staggering walk until he falls, continuing his delirium in rummaging about on the floor. Ideas of fear and suffering frequently enter into the substance of his delirium, which is dramatic because of the immediate dangers which keep him constantly active. He may, for instance, lean against the walls of the room which he apprehends are about to fall in upon him. It is when the anxious hallucinations develop a state of terror in the patient that he makes attempts at suicide, although he usually falls short of making the step complete. Pontoppidan has called attention to the fact that the character of the delirium tremens observed in different countries has imprints reminding one of the national peculiarities, although these variations may in part be due to the toxic effect of the favorite kind of liquor used. The delirium case is exclusive. Being completely taken up with his own ideas, he ignores the real impressions emanating from without. He frequently runs up against other patients without being thereby interrupted in his bustling activity. The delirium shows nocturnal exacerbations which are almost as characteristic as in the tibial pains of lues. Even if the patient has been quiet during the day, towards evening the anxious excitement sets in again, especially in protracted cases. Formerly delirium tremens was considered an abstinence-delirium caused by an interruption of the habitual stimulation. As a rule, however, it develops in the course of a continued debauch, even frequently upon a further excess in the course of the debauch. It would seem that whenever the organism has reached a certain degree of toxic impregnation the disease may develop upon the slightest provocation, which may be a further consumption of liquor or an accidental attack of some other disease. Traumatism and acute infections, the periodical gastro-intestinal irritation characteristic of the drunkard, an acute exacerbation of a chronic nephritis or nervous shocks may act as the occasional cause. Albumen, and occasionally sugar, may be present in the urine, evidences of severe disturbances in the metamorphosis of the body, which probably are the cause of the delirium tremens. Hertz thinks the condition in delirium is analogous to that present in uræmia; others, that it is an auto-toxæmia. The uncomplicated attack may be attended by a considerable fever which in some cases may assume an adynamic form with cyanosis, threadlike pulse and cold and clammy perspiration. The delirium usually ends by crisis in two to five or six days, terminating in a deep sleep; or it may end in lysis, recovery setting in gradually. Occasionally we meet with a relapsing or remittent form. As a delirium patient recovers from an attack he is relatively lucid, though frequently mixing occurrences from his dreams with reality. He is confused at first. Like Jeppe in Holberg's comedy (one of the best descriptions of a delirium tremens found in general literature), he has to pinch himself in the arm to find out whether he is alive or not, in trying to establish his identity. Orientation and rationality, however, relatively soon become established in the majority of the

cases. In a few instances some of the fallacious ideas that were present at the height of the disease prevail and may form a transitional stage to the disease called by Bonhoffer "chronic delirium," or, more frequently since then, Korssakow's psychosis. In this we find a profound disturbance of the powers of observation with loss of orientation and tendency to falsifications of memory, associated with a more or less pronounced alcohol-neuritis.

Acute alcoholic Wahnsinn (confusional insanity of alcoholics).—Another peculiar form of alcoholic insanity is the hallucinatory Wahnsinn of the drunkard (Wernicke's acute alcoholic hallucinosis), which consists of a rapid development of connected persecutory ideas, particularly based upon aural hallucinations, the patient being at the same time lucid and conscious. The disease begins as a rule suddenly and toward evening or in the night. Occasionally there is a preliminary state of mental depression without any apparent cause, irritability, impediment of thought, headache and sleeplessness. The patient is seized with a feeling of intense fear, which puts him into a perspiration. He hears noises of all kinds, voices coming from all directions abuse him, threaten to do him or his family harm—sometimes talking about him, sometimes talking to him. Hallucinations of vision and of the other senses may be experienced, and all these serve as a basis for the development of pronounced delusions. He thinks he has become the object of scorn by the world at large. The whistle of a passing locomotive is sounded as a spite against him, etc., the ideas being attempts at explanation of the predominating aural hallucinations, to which sometimes grandiose ideas become added. Consciousness seldom becomes clouded. It is only upon closer inspection that a certain dullness and bewilderment are observed. The mood of the patient shows a peculiar mixture of fear and humor similar to what is seen in delirium tremens. The behavior of the patient is generally orderly, though his actions are often most singular. He is more or less sleepless, but the appetite may at times remain fairly good. The restlessness and tremor are less pronounced than in delirium tremens. The alcohol-Wahnsinn may have a duration of weeks and months, and usually terminates in complete recovery, though a much larger percentage of cases are met with in this form than in delirium tremens in which incurable mental enfeeblement remains. Certain delusions and hallucinations are found embedded in this dementia. This is especially the case where we find hallucinations of other senses than that of hearing. The alcohol-Wahnsinn frequently terminates in the third chief form of alcoholic insanity:

Alcohol-paranoia (Hallucinatory dementia of alcoholics).—Though delirium tremens almost as often takes this course, which is always rapid, the patient becomes lucid, cognizant of surroundings, quiet, but is seclusive and suspicious, and a number of the sensory hallucinations remain, especially those of hearing. People read his thoughts, inter-

rupt him, have control over him. He is hypnotized, chloroformed, charged with electricity, etc. His privates are interfered with. The delusions show as a rule sameness of character, though they may in some cases be fairy-tale like, interwoven with grandiose ideas. The patient is usually cognizant of surroundings, and in the intercourse with those around him shows fairly normal activity and interests as long as these are not associated with his persecutory ideas. A certain amount of mental dullness and weakness is, however, present, although his memory and powers of observation may be fairly intact. The emotions show at first marked irritability and anxiousness, and the patient is therefore often suicidal and homicidal, but later he usually becomes more jolly and full of humor. Tremor and more or less pronounced neuritic disturbances are present. The course of the disease shows marked chronicity, although total abstinence may bring about considerable improvement. The disease has some symptoms in common with katonnia, but the many morbid disturbances of will-power of the latter are of course absent. Associated with the alcohol-paranoia is a form of chronic alcoholism known as insanity of jealousy of drunkards, in which the hallucinations and delusions are principally centered upon the imagined sexual misbehavior of the wife. That the chronic alcoholic should show this particular delusional tendency is not to be wondered at when one thinks of the estrangement which necessarily must result between a drinking man and his wife—and when one remembers the selfishness of the typical drunkard, who is never willing to blame himself for his drinking habits but is always ready to throw all blame upon his surroundings and especially his wife, who frequently is unwilling to desert him in spite of the misery he has inflicted upon her. One may well think of the wife when quoting the words of Solomon: "Who hath woe? Who hath sorrow? Who hath contentions?"

In connection with chronic alcoholism must be mentioned the alcoholic paralysis, which in the majority of cases is simply a combination of the symptoms of chronic alcoholism with those of general paralysis; also the so-called alcoholic pseudo-paralysis, which consists of severe cases of hallucinatory alcoholic dementia associated with more or less pronounced symptoms of Korssakow's psychosis.

Epileptic attacks are observed in a large number of inebriates, sometimes in connection with extreme intoxications, sometimes in the course of chronic alcoholism even after an abstinence of some duration.

Furstner and Simmerling found them in 30-35% of drunkards in Germany, but only in 10% of the cases of chronic alcoholic insanity. In California the epileptic attacks seem comparatively quite rare. Wildermuth and Magnan think that alcohol in the majority of cases is only the occasional cause.

(6) Kraepelin is of the opinion that mild epileptic attacks may be transformed under the influence of liquor into the severest forms of these attacks,

constituting the disease picture which is known as "Dipsomania."

We are dealing in this condition with a periodical development of craving for a most unreasonable indulgence in alcoholic drinks. Kraepelin claims to have demonstrated that the attack begins regularly with a condition which corresponds exactly with the mental depression of epilepsy, such as discomfort, precordial anxiety, deep depression, satiety of life, increased irritability, a sensation of weight in the head, loss of appetite, sleeplessness and sometimes sexual excitement. When the craving for drink comes upon the dipsomaniac he can not be restrained by any one. He may force his wife by violent threats to give him money, and may then run straight for the nearest saloon, sometimes getting out of bed in the middle of night to do so. He becomes excited, irritable, talkative and restless, runs from one saloon to the other, treats everybody and often spends large sums. After a certain length of time this wild behavior ceases, he no longer knows exactly what he is doing, especially where he has spent his money, being at the same time worried about what has occurred and now begins to moderate, and then often does not drink a drop of liquor for a long period, although the sprees usually recur with increasing frequency. When he convalesces he is fully conscious, has disease-insight, feels sick, depressed and complains of pressure in the head. He has in contrast with the chronic alcoholist a desire to be cured: "I have to drink," he will say, "and do not wish to drink. When it comes, I must go to the saloon, and when it is gone I have a feeling of loathing for it." Kraepelin claims to have been able to show in these "quarter-drunkards," as he calls them, every conceivable transitional form from dipsomania to true epilepsy.

All the above described physical and mental symptoms are directly caused by an excessive indulgence in liquor. The indirect results of alcoholic abuse are, however, perhaps even more serious and far-reaching. It first of all plays a prominent role in the causation of crime and as a contributing cause in insanity other than alcoholism, and secondly it brings about a degeneration of the race. In this connection it should be mentioned that alcoholic excesses also act as pilot in the introduction into the human organism of another poison, syphilis. In many cases this disease is contracted by men under the influence of liquor, who in a state of intoxication unhesitatingly expose themselves. Alcohol may therefore play the role of an indirect cause in the true form of general paralysis—a common and dreaded form of insanity, which has a recognized etiological relation to syphilis. With regard to crime, (7) Kraepelin found in his investigations of the crimes due to alcohol and those due to mental disease during the year 1898 in that district of Baden which sent patients to his clinic at that time in Heidelberg, that the crimes by insane were insignificant in number (about 16 to 75) compared to those caused by alcoholism. In view of the pronounced criminal tendency of alcoholics, it would

seem just to deprive certain cases, especially of dipsomania of their legal rights. Inebriety dulls the moral feelings and the discretion of the individual just as it diminishes his power of resistance against the desire for stimulants. It therefore, as (8) Hallager says, interferes with the prevailing counter-ideas which should keep him away from crime. At the same time inebriety places him in situations which carry with them incentives to crime, reducing him pecuniarily and tempting him to appropriate the property of others. It makes him irritable and angry and brings him into the society of comrades who are just as bellicose, leading him therefore to commit crimes of violence. The alcoholic intoxication makes its victim act without thinking, causes him to give up to suddenly arising desires or outward incentives without giving him time to think about the consequences, which circumstance makes the drunken person yield to a temptation which would not be dangerous to the sober man. For this reason we find that the inebriate comparatively seldom commits such crimes as theft, embezzlement or forgery, but usually crimes of violence as manslaughter, assaults, disturbances of peace, etc. The role which liquor plays in the direct and indirect causation of insanity is far greater than that of any other one cause. Prof. Friedenreich, the director of the psychiatric clinic in Copenhagen, told me in 1903 that alcohol played a role in nearly 90% of all the cases received there (the department of the Commune-hospital admits all cases in which mental symptoms are present, and draws its clientele principally from the lower classes of a city of nearly a half million inhabitants). Kraepelin found that alcoholists formed about 25% of the male patients received in the Heidelberg clinic.

During the last five fiscal years from July 1, 1901, to July 1, 1906, there were received at my department of the Stockton Insane Asylum 673 male patients (123, 134, 121, 154 and 141 respectively). Among these cases there were 18, 20, 14, 19 and 33 alcoholists for each year respectively, or in all 104 cases, which is about 15.45% of the total number of admissions. The 104 alcoholists included 48 cases of delirium tremens. The proper place for the cure and treatment of this form of alcoholism is a home for inebriates, but as the State has not seen fit to establish such an institution, and as long as the delirium cases of some counties are always kept in the jail or receiving hospital, while even in the case of the counties that finally send them to the asylum, most of the delirium runs its course in the jail anyway, why should the above 48 cases have been sent to the asylum? Applying the percentage of delirium tremens cases among the 673 male patients admitted to my department, to the total number of male patients received at the five California institutions during the last five years or 4505, the number of cases of delirium tremens committed in California during this period may be estimated to have been about 350 or about 70 cases yearly.

(To be continued.)



THE BARLOW MEDICAL LIBRARY OF LOS ANGELES.

By George H. Kress, M. D., Los Angeles.

California physicians, both north and south of the Tehachepi, have occasion, in the recent dedication of the Barlow Medical Library of Los Angeles, to doubly congratulate themselves. One, because Los Angeles, California and the whole southwest thereby came into possession of the most substantial library building west of the Mississippi, and two, because the donor of the gift was not, as is usually the case, a layman with large private means, but in this instance a member of the younger branch of the Los Angeles profession, who is in active practice in that city.

The building and equipment of the institution cost the donor, Dr. W. Jarvis Barlow, Professor of Clinical Medicine in the College of Medicine of the University of Southern California, more than thirty thousand dollars. The control of the institution he turned over to a Board of Trustees elected by the patron members, the patron members being physicians who had subscribed twenty-five dollars annually. In addition to these members there are annual members who pay ten dollars and associate members who pay five dollars yearly. The first Board of Trustees consists of Dr. Milbank Johnson, President; Dr. Stanley P. Black, Secretary; and Doctors George L. Cole, Win. A. Edwards, Fitch C. E. Mattison, B. F. Church and John R. Haynes.

On the occasion of the dedication, which took place on February the seventh, the major address of the evening was delivered by the Rev. Burt Estes Howard, who made an earnest plea that the library be a true scholar's workshop and that it be conducted on the broadest possible lines, the final desideratum to be sought being the truth in science, no matter at what cost to cherished theories, or to preconceived, so-called scientific opinions.

The building itself is of a dignified Grecian type, and is one solid mass of cement, the interior finish being of highly polished oak. The institution has been called the Barlow Medical Library by the Board of Trustees and starts its career of active work with the five thousand or more volumes which were on the shelves of the College of Medicine of the South-eastern California.

Until an endowment is raised, the expenses of the institution will be defrayed through donations and by annual membership fees as mentioned. Membership is open to all registered physicians in California and arrangements will be made to place in the offices of out of town members such books and publications as they may desire in their reading or work.

The building has been erected at 740 Buena Vista street, within eight minutes distance of the center of the city and is opposite the buildings of the College of Medicine, U. S. C. The Librarian, Miss M. Williams, who has had much experience in library work is busily engaged in card cataloguing the library according to a modified Dewey classification.

It is the hope of the Board of Trustees that the profession of the entire Southwest will feel free to avail themselves of the privileges of this institution and that they will aid also, in increasing its value and scope by the donation of books, periodicals, reprints and other data of interest. Loans of books and prints will be gladly accepted. A plea is also made that those who have manuscripts and other memorabilia of the pioneers of the profession on the Pacific Slope and the Southwest, send such to the library for safe-keeping and reference.

This fire proof building should serve not only as a repository for printed pages from elsewhere, but it should also become a place where the records of the medical men of the past and present of this section of our land may be found.

If any readers of this sketch are interested in this work or have books or publications to donate or to lend, such persons will confer a great favor by communicating with either the President, Dr. Milbank Johnson, or the Secretary, Dr. Stanley P. Black, who will be glad to give detailed information concerning the library.

COUNTY SOCIETIES.

SANTA CLARA COUNTY.

The Santa Clara County Medical Society held its regular monthly meeting on February 20th, with twenty-two members present. Dr. Thomas of Palo Alto and Dr. C. I. Beattie of Santa Clara were guests of the Society for the evening.

Drs. Jordan, Beattie and Kapp brought patients before the Society and gave their histories, diagnosis and treatment. Several members of the Society took part in the discussion that followed the presenting of the cases.

Beginning March 6th this Society will have its meetings every two weeks, and it is the intention to hold one meeting a month in some of the other cities in the county. On March 6th we go to Santa Clara and from all accounts it looks as though our

entire membership will be in Santa Clara on that date.

President Osborne spoke of the needs of the Juvenile Court of this city and the members volunteered their services as physicians and surgeons. The attendance at our meetings is growing larger and larger and our fortnightly schedule is but a forerunner of weekly or even bi-weekly meetings.

K. C. PARK, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the office of Dr. E. L. Blackman, Friday, February 22, 1907. Members present: Drs. M. Goodman, M. Taylor, E. L. Blackmun, C. R. Harry, J. J. Tully, H. E. Sanderson, R. R. Hammond and B. J. Powell; Dr. Walker as guest.

The principal business of the evening was the arranging and adopting of the new fee bill. A number of changes were made in the fee bill and it was decided that after its adoption each and every member of the county society sign the same, after which the fee bill would be published in one of the daily papers, and that all members be absolutely requested to live up to the new schedule of fees. Recently many misunderstandings have been caused by some of the members and the laity not being familiar with the fee bill. Hence, this course was taken.

The names of five doctors were presented for membership, those of Dr. J. V. Craviotto and Dr. I. S. Zeimer of Stockton and Drs. F. Grosshauser, A. M. Tower and F. W. Klonk of Lodi.

Dr. Blackmun read a very interesting paper on "Opsonins." The discussion was opened by Dr. Mary Taylor, who was followed by the members present. After refreshments the society adjourned to meet with Drs. Fitzgerald and Southworth the last Friday in March, when Dr. A. W. Morton of San Francisco will be expected to present a paper to the society.

BARTON J. POWELL,
Secretary.

ARMY MEDICAL CORPS EXAMINATION.

Preliminary examinations for appointment of Assistant Surgeons in the Army will be held on April 29 and July 29, 1907, at points to be hereafter designated.

Permission to appear for examination can be obtained upon application to the Surgeon General, United States Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations of April 29, applications must be complete and in possession of the Surgeon General on or before April 1. Early attention is therefore enjoined upon all intending applicants.

There are at present twenty-five vacancies in the Medical Corps of the Army.

MEDICAL BIOGRAPHIES.

To the Editor of the State Journal: Dr. Howard A. Kelly, of Baltimore, is engaged in the very commendable task of compiling a "Cyclopedia of Medical Biography," especially of American physicians and surgeons who have left their mark on the development of medicine and surgery in our country.

In a personal letter to the undersigned, Dr. Kelly writes as follows: "We want not only great discoverers and writers, but men of great local reputation, who may have left no written monuments behind them. I send you a memorandum outline to which, in general, the biographies ought to conform. I would suggest that they take up from one-half page to a page as a rule; for a man of unusual prominence two pages or more. I would be glad if we could find several men in California requiring a three-page biography, 500 words to a page."

The memorandum outline to which Dr. Kelly refers gives the following plan of the biographies:

"In collecting our biographies, we want to get the names of all physicians of prominence in the entire country, including Canada.

"By a man of prominence I mean one who has been looked upon as a great man by his associates on account of his originality or boldness, or on account of his influencing the practice of his contemporaries to any marked degree.

"I want particularly the names of surgeons who were the first to introduce or perform important operations. The names of some of the older physicians who were associated with the advocacy of special drugs, or forms of treatment.

"Notes may be extended from 5 to 10 lines to several pages, according to the eminence of the subject.

"Enclose photograph, if possible, with name written on it and age when taken. Note any portraits or painting extant.

"The following data ought to be secured in each case:—

"Name in full, including middle name, immediately followed by year of birth and death.

"Place of practice.

"Place and date of birth.

"Education and degrees.

"If under one or more celebrated teachers, name them.

"If he studied abroad, state when and where.

"Honorary degrees and other scientific honors.

"Membership in scientific and learned societies.

"Positions held, with dates.

"The character of his practice, original work.

"Writings (only important ones, if list is long), with references.

"Married, and to whom.

"Children, comment on any child who became well known.

"Narrate any interesting events to give life and personal color to sketch, such as anecdotes or description of personal characteristics.

"Give reference to previous biographies.

"Date and place of death."

The medical history of the Great Southwest is by no means uninteresting and it behooves us to have in this Cyclopedia a proper representation. A plea is therefore made to California physicians to send in to us the names and biographical data of practitioners, dead or living, whom they deem worthy of a place in such an important work. Such data may be directed to the undersigned and due acknowledgment will be made. The writer of this communication asks the co-operation of the profession in California, and would be pleased to correspond with those who are interested in the subject.

GEORGE H. KRESS,

602 Johnson Bldg., Los Angeles, Cal.

NO LANE LECTURES IN 1907.

The Directors of Cooper Medical College regret to announce to the medical profession that the Lane Medical Lectures will not be given in 1907.

In 1896 Dr. Levi Cooper Lane announced to the Directors of Cooper College that he had **founded and endowed** a course of ten lectures to be given annually in Cooper Medical College and to be named the Lane Medical Lectures, and imposed upon the Directors the duty of choosing the lecturers after his death. The endowment of the lecturers was not completed, however, by Dr. Lane in his life time, by reason of the fact that almost all of his property was in unproductive real estate, out of the proceeds of the sale of which he intended to make the endowment and also, with the co-operation of Mrs. Lane, to found and endow a great medical library in connection with the college.

The honorarium of the lectures was paid by Dr. Lane during his life time and, after his death and that of Mrs. Lane, which occurred a few months later, by the executors of her will. For the last four years it was paid by Dr. Charles N. Ellinwood to whom Mrs. Lane, after leaving to the College, for the purposes of the library above mentioned, all she legally could under the laws of California, bequeathed the remaining two-thirds of her entire estate.

It was confidently expected by the Directors that Dr. Ellinwood would complete the endowment of the Lane Medical Lectures out of the moneys and properties left him by Mrs. Lane but so far that expectation has not been realized. When the Directors desired to appoint a lecturer for 1907, Dr. Ellinwood, who was then President of Cooper College, stated that he would not advance the honorarium for the year 1907.

For these reasons the lectures for this year will not be given.

NEW CATALOGUE.

To the Editor of the State Journal:

Under separate cover we are sending you a copy of our new illustrated 1907 catalogue, and should you feel inclined to mention in your journal that a copy of this catalogue will be sent upon receipt of a postal card to any one of your subscribers, we will appreciate the same.

Yours truly, D. APPLETON & COMPANY.

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

MAY, 1907.

No. 5

EDITORIAL NOTES.

The House of Delegates, at the Del Monte meeting, elected the following officers for the ensuing year: President, George H. Evans, San Francisco; First Vice-President, J. A. McKee, Sacramento; Second Vice-President, Jno. C. King, Banning; Secretary, Philip Mills Jones, San Francisco; Assistant Secretaries, Harold P. Hill and Walter Hewlett, San Francisco; Councilors, Eighth District, Jas. H. Parkinson, Sacramento; Sixth District, C. G. Kenyon, San Francisco; Second District, George H. Kress, Los Angeles; at large, F. C. E. Mattison, Pasadena; Third District, T. C. Edwards, Salinas; Fourth District, George H. Aiken, Fresno; First District, R. Burnham, San Diego; at large, H. A. L. Ryfkogel, San Francisco; Fifth District, A. E. Osborne, Santa Clara. Delegates to the American Medical Association, for two years, H. Bert Ellis and Philip M. Jones; for one year, Oliver D. Hamlin; alternates, H. M. Pond, C. C. Browning and W. F. Snow. Committee on Scientific Work, Martin Fischer, W. I. Terry, F. M. Pottenger and Walter Hewlett. Committee on Public Policy and Legislation, F. B. Carpenter, J. W. James and Dudley Tait. Committee on Arrangements, F. R. Burnham, H. N. Goff and P. J. Parker. The President has appointed on the Pure Food Committee F. C. E. Mattison, Chairman, and Geo. H. Kress, Stanley Black, R. L. Porter and W. F. Snow. The next place of meeting is to be Coronado.

OUR NEW RULERS.

At the recent meeting of the State Society, the House of Delegates passed some resolutions authorizing very important undertakings. The Council is requested to continue and to broaden the organization work already

GOOD WORK.

undertaken, and to expand the scope of it so that public meetings may be held and both laity and physicians discuss those things which are of common interest. Closely associated with this is the appointment of a Committee on Pure Food control. This committee is to co-operate with similar committees to be organized in the various counties and had its origin in Los Angeles, where a committee of this sort has been working to better the milk supply. It was found easy to control the milk produced in the county, but little could be done to prevent the income of exceedingly dirty milk from adjoining counties. This is but one of the many things about which the public needs education from our profession, and it is partly the work of these committees to see that the work of enlightenment is systematized and carried out. We would respectfully suggest to this committee the value of getting up exhibits of specimens, photographs, lantern slides, etc., which could be demonstrated before public gatherings, showing the filthy condition of dairies and of the dairy product. In close connection with this Pure Food Committee a Committee on Publicity was authorized, the purpose being to have this committee aid in getting up statements for the press of the state and thus aid in the work of enlightenment. The Committee on Publicity can do an immense amount of good work if it will attend to its duties, for there are very many subjects about which the general public is keen for information of an authoritative nature. There are probably few papers in the state that would not be glad to devote a limited amount of space at frequent intervals to interesting facts about public health matters which would come directly from the State Society through its committees.

The American Medical Association meets at Atlantic City on June 4th to 7th. Every physician who can do so should certainly attend this meeting; it will be one of the largest ever held and probably one of the best.

A. M. A. MEETING.

Atlantic City is a most delightful place in which to meet, and especially at this time of year. Furthermore, the railroads have, for the first time in our history, granted a *special rate of \$91.75 for the round-trip, tickets on sale May 25th, 26th and 27th, good returning any time within ninety days.* Not the least valuable part of attending these meetings, as well as the meetings of the State Society, is the association with other men and the broadening influence of exchanging ideas with others. Make every effort to go, and when you do get there participate in the sessions.

In the April number of the JOURNAL appeared a very moderate review of the "Viavi treatment" and its promoters, with quotations from the literature which the Messrs. Law, the gentlemen who own and promote the "Viavi treatment," put out. The quotations, we thought, were sufficiently illuminating and to us seemed amply salacious to demand some attention at the hands of the daily press. Marked copies of this number of the JOURNAL were therefore sent to all the San Francisco papers. One paper—the *Call*—devoted some space to the matter; one weekly—the *Star*—also referred to it. Immediately large advertisements of the "Viavi treatment," most carefully worded, appeared in all the daily papers. Not only was there a wonderful—almost an acute—silence, but the *Call* and *Town Talk* later published very nice little write-ups about the Laws and the "Viavi." Of course we do not mean to insinuate that the silence of the papers was bought with a little advertising; the very idea is repulsive to one who has an overwhelming respect for our glorious free and independent press! But the coincidence was certainly peculiar, particularly as the Viavi Company has not advertised in the press for many, many years. 'Tis a great world, and many strange and curious things do happen.

For years it has been a fact well recognized by physiologists and clinicians alike, that pepsin and pancreatin can not exist together in the same mixture. If the solution is neutral or alkaline, the pancreatin will slowly destroy the pepsin; if acid, the pepsin will destroy the pancreatin. Various authors have repeatedly given this information, and not infrequently in the form of a warning against the use of such compounds with the hope that any result will be obtained. Potter says: "It (pancreatin) is digested by pepsin, and hence probably never passes into the duodenum in its own character." Medical students are, presumably, taught this physiologic fact when in school; yet, when they graduate they seem to forget it. The Council on Pharmacy and Chemistry has investigated a number of preparations alleged to contain these two ferments, and has published a statement on the subject, in the *Journal A. M. A.*, with a list of the manufacturing houses and the preparations of this sort which they put out. It is a most astonishing arraignment. Certainly these preparations would not be put out by the manufacturers unless physicians demanded them. Yet what sort of physicians must they be who ignore the fundamental principles of the physiology of digestion, believe the statements in the advertisements of manufacturers, and place any faith in these impossible compounds? And what state of mind must be that of the manufacturer who, knowingly—and they all must know it—puts out these preparations and makes these impossible claims in his advertising? We have reached

a bewildering stage in the game of proprietary investigation! Who is to blame? Is the ignorance of the physician, and his trust in the untrue statements of the manufacturer, less or more culpable than the greed of the manufacturer who will make such statements and put out such preparations? If this is merely an indication of the uselessness of medical education, why attempt to regulate medical schools or enact laws requiring examination by licensing boards? What does it mean? Our teachers, our physiologists, our clinicians, our therapeutists all tell us that certain things are impossible; that pepsin and pancreatin can not exist in the same mixture. A few manufacturers tell us in their advertisements that they have a mixture containing pepsin and pancreatin which is, in each case of course, the "only real Simon pure best ever digestant." Enormous numbers of physicians must believe advertisements rather than the teachings of scientists, or the stuff would not be put out, nor by such firms as the following:

New York Pharmacal Association—Lactopeptin.

Sharpe & Dohme—Pan-Peptic Elixir; Elixir Pepsin and Pancreatin; Elixir Pepsin, Bismuth and Pancreatin; Elixir Pepsin, Strychnin, Bismuth and Pancreatin.

H. K. Mulford & Co.—Elixir Lactated Pepsin; Liquor Diastos.

Parke, Davis & Co.—Elixir Pepsin, Bismuth and Pancreatin; Elixir Pepsin, Bismuth, Strychnin, and Pancreatin; Elixir Pepsin and Pancreatin; Elixir Pepsin and Pancreatin with Caffein; Malt Extract with Pepsin and Pancreatin; Elixir Lactated Pepsin.

Frederick Stearns & Co.—Elixir Lactated Pepsin; Elixir Pepsin, Bismuth and Pancreatin; Elixir Pepsin and Pancreatin.

Arthur Peters & Co.—Peter's Peptic Essence Comp.

Wm. S. Merrell Chemical Co.—Elixir Atonic Dyspepsia, Phenolated; Malt Extract with Pepsin and Pancreatin.

William R. Warner & Co.—Elixir Pepsin and Pancreatin; Liquid Pancreopepsin.

Smith, Kilne and French—Elixir Pepsin, Bismuth and Pancreatin; Elixir Pepsin and Pancreatin.

Columbus Pharmacal Co.—Peptic Digestant.

Lilly & Co.—Elixir Pepsin and Pancreatin; Elixir Pepsin and Pancreatin Comp.; Elixir Pepsin, Pancreatin and Bismuth; Elixir Pepsin, Pancreatin, Bismuth and Strychnin; Elixir Pepsin and Pancreatin with Caffein.

The Maltine Co.; Maltine with Pepsin and Pancreatin.

Reed & Carnrick—Peptenzyme Elixir.

This is not a collection of renegade nostrum houses, but in the list are to be found the names of some of the foremost pharmaceutical manufacturers in the United States. Many of them maintain large and expensive laboratories and biological departments and do a great deal of original research work. It is hardly comprehensible that they can be ignorant of the physiological incompatibility of the things which they say are to be found in the preparations listed. What is one to believe and where is one to place the blame for the existence of such a condition

of things? If it were not for the ignorance and gullibility of our own profession, there would be no call for such foolish mixtures. On the other hand, if the manufacturers did not advertise statements contrary to fact regarding them, physicians would not be fooled. It is a hard nut to crack, and we give it up!

Some of the proprietors of "patent" medicines are believed to have a keen sense of humor. The

RATHER FUNNY President of the Proprietary Association of America, Mr. F. J. Cheney, is apparently in this class. If memory serves,

Mr. Cheney is the author of the now celebrated "red ink clause," so splendidly shown up by *Collier's Weekly*, by means of which the "great American Fraud" had practically all the newspapers in the country successfully muzzled. Mr. Cheney, it is reported, addressed the Toledo Pharmaceutical Association, in January, on the subject of patent and proprietary medicines. From the extract at hand, it must have been a highly edifying address, though if Mr. Cheney continues to break forth in a similar strain he is in danger of being placed in the "Josh Billings" class, as a professional humorist. It must have been a strain upon Mr. Cheney's risibles to get off the following with a straight face:

"What is the secret of the success and popularity of patent and proprietary medicines? The first and greatest reason is their high standard of purity, uniformity of strength and medicinal qualities. Second—The acknowledged support of the most prominent doctors. Third—Their convenient form, excellent taste and nominal price. In looking over the leading medical journals published in this country, I notice many discussions carried on by eminent physicians regarding the sales and popularity of proprietary medicines, but not one of them, in my opinion, attributes the success of these remedies to the proper cause."

Mr. Cheney said that he was a pharmacist, forty years ago, and then is reported to have given birth to this chunk of startling information, "In those days the doctor was much interested in the natural crude drugs, and he would make daily calls to inspect them. I remember well the calls made by the most eminent physician in our county. For instance, if this doctor needed an infusion of Buchu, he would carefully look them over and select the choicest of leaves." The "most eminent physician in our county" must have been somewhat shy on patients, if he had the time to loiter at the drug store and pick out just the leaves he wanted made into an infusion of buchu!

When the office of a sure-thing operator in New York was raided, some few years ago, enormous quantities of letters from doctors, lawyers and parsons were found. The detective who had charge of the raid is said to have

WORKED AGAIN?

stated as his opinion that parsons and physicians were about the "easiest suckers" of all, to work. It would seem so. The *STATE JOURNAL* and the *Journal of the A. M. A.* have for some time been calling attention to specific instances of "working" the medical profession by nostrum men of sorts; unfortunately there are only too many medical (?) journals that seem to be ready, nay anxious, to help the nostrum men in the "working." There is a something, we know not what it is nor what wonderful things it is supposed to do, called "oxgulation"; it is supposed to be some sort of remedy and is advertised to a limited extent in medical journals. It was offered the *STATE JOURNAL* two or three times, but we declined the advertisement. The signs of the times would indicate that this is another preparation put before the physician in order that he may by prescribing it, create a demand which will lead the public to buy it over the counter—teach the public to self-prescribe another preparation. The usual course of such things is "work the medical profession" claiming to be an "ethical proprietary," and then go to the public with all sorts of medical endorsements and become a "patent medicine." *N. A. R. D. Notes*, the publication which represents the purely commercial side of pharmacy and urges druggists to "push" any old patent medicine, if the price is high enough, prints a portion of a letter from the "oxgulation" folk in which they say they protect the retail price of their stuff and *do not sell it to mail-order houses or department stores*—"and the retail price is plainly lithographed on the cans." How perfectly delightful!

The example set by two or three of our county societies should not be ignored by the others; all should make an effort to arrange meetings between the medical societies and the bar associations, ministerial associations and prominent citizens of all classes generally. Nor should such meetings ignore the commercial side of our profession. If

EDUCATE THE PUBLIC.

the laity once comes to realize that to be an up-to-date physician, nowadays, is not an inexpensive matter, there will be a better appreciation of decent fees. A poorly paid doctor is generally not a good doctor, for he can not keep himself supplied with current literature nor provide the required armamentarium; and every patient is entitled to, and should receive, the services of a good average up-to-date physician. Lodge and similar contract practice business really is an injury to the subscriber thereto, for bargain-counter methods in professional work always, eventually, harm the subscriber more than any one else; he gets the services of a cheap man—exactly what he pays for! Furthermore, the very members of the lodge not infrequently look

down upon the lodge physician as a "cheap" man, and when anything more than a very trivial ailment is the matter with them they call in their own physician. If the physicians in a community agitate protection against a possible typhoid epidemic, or thorough investigation of school children to eradicate a remnant of a diphtheretic infection, the people become indignant and regard with suspicion the efforts of our profession. Why? Simply because they are ignorant of the truth; we have kept them in ignorance for so many years that they do not know how to look upon the public health work of physicians. If an oculist desires to examine the eyes of school children, or if an intelligent school board requires that this shall be done and appoints some one to do it, immediately a goodly number of parents will indignantly protest that the doctor in question is merely trying to drum up business. They have no realization of the fact that their own children may be commencing life with an ocular handicap that will hold them to or below mediocrity throughout life. Our state is famous for the high grade of its schools. Yet in the planning of them, how many times has the advice of a competent physician been secured to call attention to the proper distribution of lighting, ventilation, etc.? And this simply because we have not done our duty in educating the public.

Some members of the Society who are not interested in insurance examination work have complained of the ammount of space devoted to this subject **INSURANCE EXAMINATIONS.** in the columns of the JOURNAL. The large number of members who *are* interested in the subject, however, and very materially interested, will not, we feel sure, make such a complaint. At the last meeting of the American Medical Association a special committee on life insurance examination fees was appointed, and that committee has already handed in a partial report, which has been printed in the *Journal A. M. A.* and in a number of other journals. The findings of the committee are interesting and will be found elsewhere in this number of the JOURNAL. It is amusing to note that, while the companies put up a loud wail of anguish when it is urged upon societies to stand together and not to deal with the companies as individual physicians, the companies themselves—or the three big offenders—have an ironclad agreement not to change the rate unless that all do so. What is sauce for the humble goose seems not to be a proper dressing for the lordly gander! We sincerely trust that this special committee will have a fuller report to make to the House of Delegates at the coming meeting of the Association, and that some definite support will be given to those county and state societies that are trying to effectively resent the impertinence of the insurance trust. The reduction of the fee for examinations was absolutely unwarranted and was actuated by reason of the discovery of the stealings of the high officials of these companies. No single word of scandal at-

tached to the medical departments of these companies during the insurance investigation, yet when reforms are demanded and retrenchment insisted upon, the heaviest blow is struck at almost, if not quite, the only honest department. There is absolutely no doubt that this fight can be won for honest fees, if we will but fight together, hard and honestly; but if deserters are to be bought by the insurance companies, we can hope for but poor success.

PLEASE NOTICE

The 23d Annual Meeting of the American Academy of Medicine (Specializing in Medical Sociology) will be held at the Hotel Dennis, Atlantic City, on Saturday, June 1, and Monday, June 3, 1907.

Provisional Program.

Friday, May 31st, 8:00 p. m.—Annual meeting of the Council.

Saturday, June 1st, 10:30 a. m.—Executive session of the Academy.

12:00 m.—Open session of the Academy.

Report of the Committee on "The Teaching of Hygiene in the Public Schools."

Report of the Committee on "The Comparative Value of the First Degree in Our American Colleges" (final report).

Papers.

"The Communal Life of Physicians: Its Cultivation and Value." By Dr. Leartus Connor, Detroit.

"The Superiority of the Playground to the School-room." By Dr. Woods Hutchinson, of Arrow Head Springs, California.

"Insurance for Defectives." By Dr. J. A. Spalding, Portland, Me.

(There will be a recess for lunch during this session.)

8:00 p. m.—Open session of the Academy.

Annual address before the Academy—Dr. Casey A. Wood, of Chicago, President of the Academy, "A Medical Career and the Intellectual Life."

Monday, June 3, 1907, 10:00 a. m.—Executive session of the Academy.

11:00 a. m.—Open session.

Symposium—The Relation of the Medical Profession to the Housing of the People.

Papers by Drs. Gertrude U. Light, S. A. Knopf, of New York, and others.

Symposium—The Relation of the Profession to Medical Legislation.

Papers by Drs. P. S. Conner, of Cincinnati, Henry W. Cattell, Henry Beates, Jr., of Philadelphia, and others.

There will be a recess for lunch during this session. At the conclusion of the program, there will be an Executive Session, when the report of the Nominating Committee will be received.

7:30 p. m.—Social sessions with the annual banquet, tickets \$2.00 each. Fellows are privileged to bring as many guests (including ladies) as they care to secure tickets. This function is under the supervision of the Committee of Arrangements, Dr. W. Blair Stewart, chairman.

Some change probably will be made in the order of the papers in the final program.

Every reputable college-bred physician is eligible for membership in the American Academy of Medicine, and it invites all who are interested in the medical aspect of the social problems of the times to unite in its study of these problems. Blank applications and literature may be obtained from the secretary, 52 North 4th Street, Easton, Pa.



ROBERT FLEMING ROONEY, M. D.

Dr. Robert Fleming Rooney was born in the small town of Melbourne, province of Quebec, on June 17, 1842. He came of Scotch-Irish parentage, the Scotch blood predominating. His paternal grandfather and great, great grandfather were physicians, graduates of one of the Dublin schools. He was educated in the common school, took two years in an "academy" and then took a course in the Bishops' College preparatory school at Lennoxville, P. Q. Later he entered the medical college of the University of McGill, from which he was graduated on March 31, 1870. At that time McGill was one of only three colleges on the continent that demanded a four years' course of study and a preparatory course at least equal to our own high schools.

He practiced in his native country for four years and then spent one year in New York city in search of further knowledge. Very soon thereafter he came to California, where the balance of his professional life has been spent. For twenty-seven years

he has practised his profession in Auburn, and the best of his life's work has been done there. For twenty-five years he lived in the closest friendship with the late Dr. Thomas Milton Todd, and the friendship sweetened the lives of both men.

Dr. Rooney has always been prominently connected with medical societies and medical society work. He is past president of the California Northern District Medical Society; he helped organize the Placer County Medical Society, and was its secretary for twenty years; he has been a member of the state society for twenty-seven years, serving it in all positions from private member to president; he has also been a member of the A. M. A. for years, and in all positions and at all times has tried to uphold the honor of his beloved profession. His professional literary work has been done entirely within his societies, as his life was too arduous a one to do more. His political honors have not been many, nor did he ever seek any. He has, however, been coroner and public administrator of his county, and served a term as mayor of his city.

ANNUAL ADDRESS OF THE PRESIDENT.

By R. F. ROONEY, M. D., Auburn.

Ladies and gentlemen, and members of the Medical Society of the State of California: Owing to a slight unpleasantness—duration, 45 seconds—which occurred in San Francisco one year ago, followed by the disastrous fire, it again becomes my pleasant duty to preside over this august body, in annual session assembled. I am an accident in this chair at this meeting, holding the unique position of president for the second consecutive year. This was neither your fault nor mine, so no comment is needed—merely remarking that it was due to "circumstances over which we had no control." Under these conditions, being the "accident" that I am, I do not intend to inflict upon you a long address. But you need not sigh with satisfaction at this statement, as I can not let you escape entirely free.

I feel it incumbent upon me at this time to enter a little into detail concerning the catastrophe which so quickly ended our meeting one year ago, and to note such things as may prove of interest to you, but of especial interest to our successors who may perchance read these words in the annals of our society in the future years.

On the 17th day of April, one year ago, we met in the city of San Francisco, in the Young Men's Christian Association Hall, for our annual session. We had mapped out a four days' meeting, with an extra day for clinics at the various large hospitals of the city. We anticipated a rich treat, both scientifically and socially. This anticipation was amply fulfilled for the first day, for the program was rich in scientific worth, and the evening meeting of the House of Delegates was large and harmonious. It was the season of grand opera in the city, and as we made our way to the evening meeting, private residences and the great hostleries of the city were issuing to waiting carriages hundreds of men in evening dress, and fair women decked in richest garb of silks, laces and jewels. The other theaters and places of public amusement were also calling their crowds, the streets were thronged with happy pedestrians, and the light jest and careless laugh ruled the hour. After our evening meeting was ended we came out to quiet streets and an ideal night. The ordinary pedestrians had mostly left the streets, the theaters had not yet given up their crowds, and nothing jarred upon the ear but the clanging gongs of the street cars. The pulsing artery of a great city's commerce was stilled, but the myriad lights of a great and proud capital gleamed and flamed and the great finger of the Ferry building pointed to heaven, outlined by a band of living fire.

No man at this moment could even have dreamed, in the most hideous nightmare, that within twenty-four short hours all this would be a charred and blackened ruin, with the inhabitants fleeing for their very lives.

We retired to our beds in peace and quiet, and

at 5:15 the next morning were shaken out of our beds, and our belief in the stability of our Mother Earth, by the great earthquake which directly and indirectly wrought such ruin and havoc in San Francisco. In one short moment everything was changed from peace, plenty and contentment, to death, terror and despair. Hundreds went down to death with the toppling buildings and thousands were mutilated and wounded. Other thousands escaped by narrow margins, and for a while every one was paralyzed. Great fires started and began eating north, west and south. The outlook was appalling. Among the very first to recover presence of mind were the members of our own profession. When word went out that thousands of wounded and dying were caught in the ruins of the falling buildings the physicians of San Francisco, neglectful of all selfish thoughts, flew to their work and aided and directed in the rescue of those in need of their skill.

I thank God that such noble examples of devotion to duty were exhibited by men of our own profession. It gratifies me to raise my voice at this moment in praise of the faithful men who flew to duty's post—and stayed there. Physicians, by both training and the lessons taught them by the calls of their profession, are taught to consider the wants of the sick and suffering first and of their own needs last. Hence it was that no class of men in San Francisco suffered as severely by loss of worldly goods as did the physicians and surgeons of that fire-swept city. Whilst they wrought over the sick and wounded, carrying them from one place to another in hope of safety, their offices and all the contents thereof withered in the flames like a leaf thrown in the fire on the hearth. Whilst they remained on duty, regardless of aught else, their very homes were going up in smoke, with not a memento saved. All was gone save the garments they wore, and still they wrought on, without hope or thought of fee or reward. In the after weeks the pinch came, especially to many of the younger men. Without patients, home, money, office or instruments, many a deserving man found himself in the condition described in the words of the old song: "Too proud to beg, too honest to steal, I know what it is to be wanting a meal." Another thing which further robbed these men of their opportunities was the organization of relief hospitals from outside the city. Surgeons from other cities, and even from other states, were brought in under large salaries by at least one political influence, and the deserving men of San Francisco were left to walk the streets in hunger. Such a travesty on charity would make the angels weep.

But, thank God, all is not self in this world. Offers of aid came pouring in upon me, as president of the State Society, from the A. M. A. down to my own county society, all of which I referred to Dr. Wallace I. Terry, president of San Francisco County Society, I being too far from the scene of action to take a part in the aid of our suffering brethren.

And here, as president of the Medical Society of the State of California, and on behalf of its members, I wish to record my deep gratitude to all our medical brethren, wherever they may dwell, who

stretched out helping hands to the unfortunate of our brethren in the city of San Francisco at their time of need. Thanks to this timely aid and their own pluck, nearly every medical man in the city is upon his feet again.

I will not intrude upon your time with an account of any of my personal adventures on the morning of the earthquake, save what immediately concerns this society. Suffice it to say that, in common with all other inmates of the city, I was shaken out of bed—and my usual serenity of mind—in the rudest possible manner. After having regained my mental equipoise—and my clothing—I descended to the street, to see the saddest sight of my life—a great and beautiful city ruined. The reopening of our session at 9 a. m. lay heavy on my mind. I believed it to be my duty to be there, if possible to accomplish the journey over the masses of debris and past the tottering walls. I arrived there close to the hour and found the hall in ruins. You who were there remember it. All the great cornice lay upon the sidewalk, the walls gaped with rents and the glass of the windows lay shattered on the ground. The following members were gathered at the door, sadly gazing at the ruins: Our secretary, Dr. Philip Mills Jones; Past President Dr. H. Bert Ellis, Dr. J. H. Parkinson, Dr. Woods-Hutchinson, and one other member, to whom I owe an apology for forgetting his name. This little company crossed to the opposite sidewalk to avoid falling bricks, and after a moment's consultation I adjourned the thirty-sixth annual meeting of this society, sine die. Since that day the councilors have done all our business, and we owe them our sincere thanks for the manner in which they have piloted us through the difficulties of the year.

The losses of this society caused by the fire following the earthquake were heavy and have crippled us severely. It has taxed the business ability of our councilors to provide for the maintenance of our publications during the year without running the society deeply in debt. Owing to the increase in cost, both for labor and material, the expense of publication of the JOURNAL and the Register was greater than ever before, and we were less able to pay. The future offers no brighter outlook for some time, and we must stand prepared to keep our membership fee at about its present size until we get upon our feet again.

The losses were as follows:

Lost on JOURNAL advertising.....	\$ 452.30
Paper on hand.....	437.68
New equipment, office furniture, stationery, etc.....	1,067.21
Re-establishing card files (when finished)	1,000.00
Further losses of property on hand.....	750.00

Making a total of losses of.....\$3,707.19

According to our estimates for the past year, we should have had an excess of income of \$1,446, which would have wiped out all old indebtedness and left us with a comfortable surplus. How all these perplexities have been met I leave for the other officers to explain.

Owing to the premature dissolution of our last annual meeting, two subjects that I earnestly called your attention to were left unconsidered. I refer to state laboratories and standardization of medical education. I venture to again call your attention to the latter subject, as it is so vital to the profession. I repeat what I said last year:

An important movement recently entered upon by the American Medical Association is that of attempting to standardize and elevate medical education. It is well worthy of support, and I call your most serious attention to the matter. The American Medical Association has adopted the following standard requirements requisite to the practice of medicine:

1. Preliminary requirements are to be a high school education or its equivalent, such as would admit the student to one of our recognized universities.

2. Preliminary requirements to be passed upon by a state official, such as the superintendent of public instruction, and not by an official of the medical college.

3. A medical training in a medical college, having four years of not less than thirty weeks each year, of thirty hours per week of actual work.

4. Graduation from an approved medical college required to entitle the candidate to an examination before a state examining board.

5. The passing of a satisfactory examination before a state examining board.

I would therefore recommend that in order to carry out the foregoing you alter the by-laws of this society to enable it to appoint a committee on the advancement of medical education, to co-operate with that of the national association. Any power we now have is vested in our committee on public policy and legislation, and the scope of this committee does not properly cover this work. The duties of the proposed committee could be inserted in our by-laws, and have been advised by the council on medical education of the A. M. A. as follows:

"The committee on medical education shall consist of three members; one member shall be elected to serve for one, one for two and one for three years; thereafter one member shall be elected each year to serve for three years.

"The functions of the committee shall be: (1) to co-operate with the state examining board in matters pertaining to medical education; (2) to make an annual report to the House of Delegates on the existing condition of medical education in the state; (3) to co-operate with the council of education of the American Medical Association of the United States."

The time is ripe for energetic work in this direction, and I take pleasure in directing your attention to it.

In addition to this I quote a letter received last October from the secretary of the council:

DEAR DOCTOR: Since the work of raising

medical standards in the United States depends very largely upon the forces in each state, the work of your state committee on medical education is of extreme importance. In order that these committees from the various states may benefit by a free exchange of ideas, we should like to have such arrangements made that would make it possible for a representative of each state committee, preferably the chairman, to be present each year at our annual conference. In considering how to secure a larger representation from these committees the traveling expenses of the delegates appear as an important item. We should like to ask, therefore, whether your state society would be willing to make provision in their annual budget for the expenses of this delegate. Our conferences are attended by many leading educators as well as many representatives of the various examining boards. Subjects are discussed and ideas brought out which would be of great value to every state committee on education, and we believe that the ideas as well as the enthusiasm from these conferences would be worth to your state many times over the amount paid for a delegate's expenses.

Awaiting with interest your reply, we are
Yours very truly,

COUNCIL ON MEDICAL EDUCATION.

Per N. P. COLWELL, Secretary.

I had to answer that "owing to the breaking up of our last session by the earthquake and fire, no action had been taken on this question, but that at the next annual meeting I would again call the attention of our society to the matter." I have now done so, and leave it in your hands once more.

Another subject that I recall your attention to is that of fees for examinations for life insurance. The matter was threshed over at our last meeting, but did not come to a vote. Now, with further light upon the subject given us in the preliminary report of the committee on insurance of the A. M. A., we can act for the good of the profession in this state. I commend that report to your serious consideration and urge you to get in line with the eighteen other societies that have taken action on this very perplexing question.

Another subject of thought I offer you: You all know how the evil of proprietary and secret medicines has occupied the minds, and many pens, of the profession during the past five years. The A. M. A. has devised a plan of dealing with this question that is simply admirable and which, if properly backed up by our state societies and leaders, will solve the problem. This remedy is found in the work of the council on pharmacy and chemistry of the A. M. A. Let us approve that work and recommend to our members that they use no medicines outside the Pharmacopœia, saving those that have been approved by that council.

I wish to direct your attention to another matter which I had in mind to present to you later on at our last session. This was prevented by the bad attack of "shakes" that San Francisco experienced at

that time. A short time previous to that date I received the following letter from Dr. Henry O. Marcy, of Boston, which explains itself:

MY DEAR DOCTOR ROONEY: You have been appointed coassociate with me as representative of your state to solicit funds for a proper memorial to the late Dr. N. S. Davis, of Chicago, the founder of the American Medical Association. We do not require a large sum of money, but would much the rather secure a small contribution from the many who loved him and who will consider it a privilege to thus help honor his memory. Five hundred dollars from a like number of members of your association would be appreciated more than twice the sum from a single individual. If voted from the funds of the state society, would it not equally represent all the membership? Yours sincerely,
HENRY O. MARCY.

March 9, 1906.

I believe that we should do our part in honoring this "father in Israel" of our own profession, and if you can not see your way clear to give a sum from our treasury in its present depleted condition, I suggest that you appoint some member to make appeal to the individuals of this body, granting sufficient funds to cover stamps and stationery for the purpose.

One other subject I wish to call your earnest attention to before I close. It is the great benefit that medical organization is proving, both to the individual members as well as to the profession at large. When two thousand men speak in unison, the volume of sound carries to the dumbest ear. The politician who ever keeps an ear cocked to the wind of public opinion listens with the utmost attention, when he would never hear or heed the individual's cry. The old motto that "In union is strength" comes to us with new emphasis when we see what it has done, is doing and may do for the profession when applied to our political affairs. I ask you to send out some ringing message to all the profession throughout the state, showing the benefits of our county and state organizations and asking their support, both for the sake of the profession and of their own.

And now for a short history of our proceedings since the last annual meeting and an explanation of why your officers are all "holdovers." Very soon after the San Francisco meeting was so rudely broken up I entered into correspondence with our secretary and other officers and members as to the advisability of calling the House of Delegates together to complete its unfinished work. I was advised by all to wait until our San Francisco members had found their feet again and were able to attend to other matters than their own personal ones. I waited until August, and on the 22d of that month the council discussed the matter, and advised that everything should remain as it was. They considered that if the delegates assembled and completed the elections the legality of a special election might give rise to litigation if a new member, or members, of the board of examiners were elected.

As we have had abundance of trouble in that line, anyway, it was not thought best to solicit new attacks by this proceeding. Therefore the council unanimously decided to recommend that no election be held, as under the constitution all officers will hold office until their successors are elected at the next annual meeting. Nothing further remained but the selection of a place of meeting, and the assessment for the year. This was settled by a ballot by mail. I then renominated all the old committees that fell within my appointment and notified our secretary to apprise them of the fact. Every officer has, I believe, done his very best for the interest of the society, and in your hands is placed the record.

And now, in conclusion, I once more thank you for the honor you conferred upon me when you elected me as president of this society. My deepest gratitude is yours. You have supported me loyally in all my efforts for the good of the society and its members during the past strenuous year. I have had the kindest letters from the foremost men throughout the state, offering aid and counsel, and I take this opportunity of thanking them most heartily and sincerely. Bear with me kindly to the end of this session and let me lay down the gavel with the belief that I have served you well.

THIRTY-SEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA—MINUTES OF THE HOUSE OF DELEGATES.

The House of Delegates was called to order April 16th, 1907, 8:45 p. m., by the President, Dr. R. F. Rooney.

On roll-call it was found that 45 Delegates were present, and the President declared the House in session.

Dr. Parkinson introduced the following resolution, which was duly seconded and carried:

Resolved, that an Executive Committee of three be appointed by the President for the purpose of considering such matters as may be referred to it by the House of Delegates. The President then appointed as such committee Drs. J. H. Parkinson (chairman), J. Henry Barbat and F. M. Pottenger.

The report of the President had been made at the morning session and was now referred to the Executive Committee.

The report of the Secretary and Editor was then read and referred to the Executive Committee.

The report of the Council was then read and referred to the Executive Committee.

Dr. Parkinson then introduced the following: *Resolved*, that the report of the Council be adopted, and that its action on the various matters contained therein be, and it is hereby approved. Duly seconded and carried.

There was no report from the Committee on Scientific Work.

The report of the Committee on Public Policy and Legislation was presented by Dr. Parkinson and referred to the Executive Committee.

The amendments introduced at the Thirty-sixth

Annual Session were adopted, resulting in the following changes in the Constitution and By-Laws:

(a) By-Laws, Article VIII, Section 12. "The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates and list of non-affiliated physicians of the county, to the Secretary of this Society before the first day of February of each year."

(b) Article X, Section 5, which reads as follows: "For the purpose of determining the amount of the assessment upon each component society for the fiscal year, the secretary of each component society shall file with the Secretary of the State Society on or before the first day of February of each year a statement of the number of members in good standing on the first day of January of such year as provided in Article I, Section 3. Names of additional members may be transmitted to the Secretary of this Society at any time during the year, but all names transmitted prior to the first day of August shall be accompanied by the assessment to the State Society for that year."

(c) Section 9. "A physician living on or near a county line may hold his membership in that county most convenient for him to attend, provided that the consent of the society of the county in which such physician may reside be first obtained."

(d) Section 14. "In counties where it is not practicable to organize a County Medical Society, any member of the profession in said county may have the privilege of uniting with the society of an adjoining county, but such membership shall continue only during the time that no organized County Medical Society exists in that county. If, however, it is more convenient for a physician who lives in one county to attend the meetings of an adjoining component society, he may continue as or become a member of such society, provided that jurisdiction be first waived by the society of the county in which such physician may reside."

Dr. Langley Porter then introduced a resolution to the effect that it was the sense of the general session, held on the morning of April 16th, that the House of Delegates co-operate with the Los Angeles County Association and other committees or societies in the matter of securing pure foods. This was referred to the Executive Committee.

A substitute motion was introduced by Dr. Mattison, which was also referred to the Executive Committee.

There being no further business, the minutes were read and approved as read, and the House adjourned.

SECOND SESSION.

Wednesday evening, April 17th: Called to order at 8:40 p. m. by the President, Dr. Rooney; 48 Delegates present.

The Secretary announced the resignation of Dr. J. A. McKee as a Delegate from Sacramento County, and Dr. N. K. Foster was registered as his successor.

The report of the Executive Committee was then called for, and was read by the Chairman, Dr.

Parkinson. It was moved by Dr. Ellis that the report be accepted and the recommendations considered section by section. Carried.

REPORT OF EXECUTIVE COMMITTEE.

(1) *President's Address. Committee on Medical Education.* Recommends that a committee of three be appointed by the President for the purpose of co-operating with the Council on Medical Education of the A. M. A. and with the Board of Medical Examiners of the State of California on this subject. (On motion this section was adopted as read.)

(2) *Fees for Examinations for Life Insurance.* Recommends that this matter be left with the affiliated county societies; that the Secretary call their attention thereto, urging them to take action in the premises and requesting that they inform him what course, if any, has been adopted, so that he can report same to this Society. (On motion this section was adopted as read.)

(3) *Proprietary and Secret Remedies.* Recommends that members of this Society refrain from using remedies the exact nature of which, or the formula thereof, is not clearly set forth. (On motion this section was adopted as read.)

(4) *Dr. N. S. Davis Memorial Fund.* Recommends that each member of this Society, who is a member of the American Medical Association, contribute one dollar to the fund, and that this recommendation be published in the JOURNAL. (On motion this section was adopted as read.)

(5) *Report of Council. Nominees for Board of Examiners.* The Committee finds, on looking over the names of those selected by the House of Delegates for submission to the Governor for his consideration when appointing the Board of Medical Examiners, that that of Langley Porter is ineligible, the doctor holding an appointment in the San Francisco Polyclinic. The Committee believes there are two methods of disposing of this difficulty:

(a) That the House reopens the whole question and proceeds to ballot for ten names.

(b) That the House proceeds to ballot for one name to fill the vacancy caused by the ineligibility of Dr. Porter. The Committee feels that the latter is the quickest course and recommends its adoption. (On motion this section was adopted as read.)

(6) *Medical Register.* Recommends that, for the present, the Register be issued as a supplement to the JOURNAL and of the same size and form, at the usual time of publication. (On motion this section was adopted as read.)

(7) *Assessment.* Recommends that the assessment for 1908 be maintained at three dollars. (On motion this section was adopted as read.)

(8) *Advertising.* Recommends that no advertisement of a preparation appear in the JOURNAL unless such preparation has been approved by the Council on Pharmacy and Chemistry of the A. M. A., but that all existing contracts with advertisers to whom this recommendation applies be fulfilled. (On motion this section was adopted as read.)

(9) *Organization of the Profession.* Recommends that this matter be referred to the Council with power to act and with the suggestion that the strictest economy be practiced in this connection. (On motion this section was adopted as read.)

(10) *Secretary's Report. Card Index of Physicians.* Recommends that the card index of physicians be reconstructed as soon as the Council believes the funds of the Society will justify the necessary expense. (On motion this section was adopted as read.)

(11) *Publicity and the Education of the Public on Medical Matters.* Recommends that a committee of three be appointed by the President for the purpose of giving effect to this recommendation, and that strict economy in the working of this Committee be practiced. (On motion this section was adopted as read.)

(12) *Fund to be Raised by County Societies for Publicity, Protection and Organization.* The Committee believes that such a fund will fill a most useful and worthy purpose—if you can get it. (On motion this section was adopted as read.)

(13) *Secretary's "Explanation and Apologies."* In deference to the feelings of the Secretary, your Committee believes that his "explanation and his apologies" should be accepted with sympathy and with sincerity. At the same time the Committee feels that such sentiments can only arise from a modest unconsciousness of innate worth and of services admirably and faithfully performed. (On motion this section was adopted as read.)

(14) *Report of Committee on Medical Legislation. Naturopaths.* Recommends that the representatives of this Society on the Board of Examiners be instructed, if legally possible, to use their influence towards the certification of these Naturopaths, now in active practice and in good standing, whose names have been submitted with this report. (On motion this section was adopted as read.)

(15) *Square Deal.* The Committee urges upon the representatives of this Society on the Board of Examiners the paramount necessity of tact, consideration and conciliation in the workings of this first Board under the new Act. It assumes the fairness of its representatives and only points to the fact that by their conduct the Board, as a whole, is likely to be approved or condemned. (On motion this section was adopted as read.)

(16) *Medical Organization for Legislative Purposes.* The Committee recommends that the form of organization obtained during the past session, namely, committees in Senatorial Districts, be continued, the necessary appointments being made in the same manner and at the proper time; that is, after the elections. (On motion this section was adopted as read.)

(17) *Resolution Relating to Pure Food.* Recommends that a committee of three be appointed by the President to co-operate with the proposed committees from County Societies and to amplify their work. (On motion this section was adopted as read.)

(18) *Board of Examiners. Investigation of Credentials and of Preliminary Educational Requirements.* The committee recommends that the Board continue its policy in this matter, believing it to be of the highest importance in furthering the cause of better qualification. For this purpose the representatives of this Society on the Board should be instructed to urge the importance of this attitude. (On motion this section was adopted as read.)

(19) *Prosecution of Illegal Practitioners.* The prosecution of violators of the medical law having, under the new medical practice act, become a part of the duty of the Board of Examiners, the committee recommends that the Council take the necessary steps to procure the co-operation of the affiliated County Societies in this work. (On motion this section was adopted as read.)

(20) *Special Committee on Tuberculosis.* Recommends that this committee be continued. (On motion this section was adopted as read.)

(21) *New By-Laws.* The committee advises that wherever it seems best to make the various committees, suggested in this report, permanent, the necessary changes in the by-laws therefore be submitted. (On motion this section was adopted as read.)

(Signed.) JAMES H. PARKINSON, Chairman.
HENRY BARBAT,
F. M. POTTENGER.

It was then moved by Dr. Parkinson that the report be adopted as a whole; seconded and carried.

On motion of Dr. Barbat, Dr. R. L. Wilbur was elected to take the place on the list of nominees to be submitted to the Governor, from which list appointments to the Board of Examiners are to be made, to take the place of Dr. Langley Porter, who was found to be ineligible. The President then called for the special order of business.

The selection of place of meeting and election of officers. Dr. H. N. Rowell nominated Berkeley, and Dr. J. A. Parker nominated Coronado, as the next place of meeting. After several speeches had been made, Dr. Rowell withdrew the nomination of Berkeley, and it was then moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Coronado as the next place of meeting.

Dr. George H. Evans was then nominated by Dr. H. Bert Ellis for President during the ensuing year. There being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Dr. Evans.

Dr. John C. King and Dr. J. A. McKee were then nominated to fill the office of First Vice-President during the ensuing year. Dr. John C. King withdrew, and there being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Dr. J. A. McKee.

Dr. John C. King was then nominated for Second Vice-President. There being no other nominations, it was regularly moved, seconded and carried, that

the Secretary cast the ballot of the House of Delegates for Dr. King.

Dr. Philip Mills Jones was then nominated for Secretary. There being no other nominations it was regularly moved, seconded and carried, that the President cast the ballot of the House of Delegates for Dr. Jones.

Dr. A. W. Hewlett and Dr. H. P. Hill were then nominated to act as assistant Secretaries. There being no other nominees, it was regularly moved, seconded and carried, that the Secretary cast the ballot of the House of Delegates for Drs. Hewlett and Hill.

Councilors. Term expires 1910; Eighth District, Sacramento, Amador, El Dorado, Alpine, Placer, Yuba, Sutter, Sierra, Yolo, Butte, Plumas, Lassen, Mono, Inyo, Glenn, Colusa, Tehama, Shasta, Modoc and Siskiyou Counties, Jas. H. Parkinson to succeed himself.

Sixth District, San Francisco, C. G. Kenyon, to succeed himself.

Second District, Los Angeles, Ventura, Kern, Dr. George H. Kress.

At large, Dr. F. C. E. Mattison, to succeed himself. Term expires 1909; Third District, Santa Barbara, San Louis Obispo and Monterey Counties, T. C. Edwards, to succeed himself.

Fourth District, Fresno, Kings, Tulare, Merced, Mariposa, Madera, Stanislaus and Tuolumne Counties, George H. Aiken, to succeed himself.

First District, San Diego, Riverside, Orange and San Bernardino Counties, Fred R. Burnham.

At large, Drs. H. A. L. Ryfkogel and R. L. Porter, were nominated. Forty-eight ballots were cast, of which Dr. Ryfkogel received twenty-five, and Dr. Porter twenty-three. The President declared Dr. Ryfkogel elected.

Term expires 1908; Fifth District, Santa Clara, San Mateo, San Benito, Santa Cruz, Dr. A. E. Osborne, to succeed himself.

Delegates to the American Medical Association. Drs. H. Bert Ellis and Philip Mills Jones for two years, and Dr. Oliver D. Hamlin for one year, were then nominated, and there being no other nominations, it was regularly moved, seconded and carried that the President cast the ballot of the House of Delegates for Drs. Ellis, Jones and Hamlin.

Alternates. Drs. H. M. Pond, C. C. Browning and W. F. Snow were nominated, and there being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Drs. Pond, Browning and Snow.

Committee on Scientific Work. Drs. Martin Fischer, W. I. Terry, F. M. Pottenger and Walter Hewlett were then nominated, and there being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Drs. Fischer, Terry, Pottenger and Hewlett.

Committee on Public Policy and Legislation. Drs. F. B. Carpenter, J. W. James and Dudley Tait

were then nominated, and there being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Drs. Carpenter, James and Tait.

Committee on Arrangements. Drs. F. R. Burnham, H. N. Goff and J. A. Parker were then nominated, and there being no other nominations, it was regularly moved, seconded and carried that the Secretary cast the ballot of the House of Delegates for Drs. Burnham, Goff and Parks.

The minutes were then read and approved as read, and there being no further business, the House of Delegates adjourned sine die.

PHILIP MILLS JONES,
Secretary.

REPORT OF THE COUNCIL.

Mr. President and Delegates:

Your Council begs leave to hand you the following report of the work which has come before their attention during the past year.

Owing to the general confusion which followed the catastrophe of last April, no meeting of the Council was held until August 22nd. At this time Dr. J. H. Parkinson was elected to fill the vacancy caused by the death of Dr. Thomas Ross.

The Council considered very carefully the advisability of recommending that the President call a meeting of the House of Delegates, but it was urged that as all the San Francisco members had suffered very severely, it would hardly be justifiable to place them under the expense of attending a special meeting, if the absolutely necessary work could be done otherwise. As the By-Laws state that all officers shall hold until their successors are elected and qualified, there appeared to be no good reason why these officers could not hold over until the present annual meeting.

A ballot of the House of Delegates was taken on the recommendation that the next place of meeting be Del Monte, that the assessment be fixed at \$3.00 for the year 1907, and that the recommendation of the Council, to the effect that no special meeting be held, be sanctioned. These motions were approved by the Delegates practically unanimously.

Some members of the Council advised with the Secretary early in May, 1906, as to the resumption of the business of the Society, and authorized the Secretary to order furniture and supplies for the rehabilitation of the office of the Society, which action was subsequently confirmed unanimously by the Council in session.

The loss to the Society by the fire of last April was very serious, exceeding \$3,000.00. The actual financial loss, however, was by no means the most serious, as all of the records of the Society, with the exception of the minutes of the Council and the account books, contracts and vouchers, were destroyed. Up to the present time these records have been but partly re-established, as the expense of reconstructing the card file of physicians is one that

the Council has not felt that the Society could yet afford. The work should be undertaken at the earliest possible time.

In October, Dr. J. L. Asay resigned from the Council, and Dr. A. E. Osborne was elected to fill his place.

Donations from Los Angeles, \$913.00; King County, Washington, \$106.00, and Marin County, \$25.00, were received by the Council for the State Society, and the thanks of the Council were extended to the donors. This assistance aided very materially in carrying on the work of the Society until the end of the year, when the income for 1907 began to come in.

In March, after the passage and approval of the new law governing the practice of medicine in this State, and the State Board of Medical Examiners requested the Council to designate the ten nominees from which list the Governor was to appoint five to act upon the Board of Medical Examiners. It was stated to your Council that the various other Societies entitled to representation on the Board of Examiners, did not hold their meetings until after the 1st of May, on which date the new Board is required by law to complete its organization. Consequently, these Societies had appointed their nominees through the several Councils or Executive Committees of their respective Societies. It was further urged that the nominees should be placed before the Governor at the earliest possible date, so that the personnel of the Board might be known, and a preliminary meeting for organization held in April, immediately after the session of the present Board.

In view of these facts, your Council, while it did not care to assume the responsibility of directly making the nominations to the Governor, instructed the Secretary to take a ballot by mail of the House of Delegates, and to expedite this ballot, submitted to the Delegates ten nominees.

The recommendation in this case was approved by the House of Delegates. The nominees submitted in the postal ballot and elected are the following: Dudley Tait, G. F. Reinhardt, A. L. Cothran, John C. King, J. Henry Barbat, F. C. E. Mattison, Barton J. Powell, J. W. James, Langley Porter and Saxton Pope. Sixty-three votes were cast out of a total of ninety delegates.

Considering the financial statement prepared by the auditor who examined the Secretary's books and accounts, as closed on the 31st of December, and found them to be correct in all particulars, your attention is called to several items.

You will note the overdraft of \$450.56. This overdraft was apparent, and not actual. There was not sufficient funds to pay all the running expenses, so the Secretary consented to refrain from depositing the checks drawn to his account for his salary, thus permitting the Society to retain the use of some \$600.00.

The item of fixtures, \$668.78. This expense was required in refitting the office of the Society, and represents only a part of the required expenditure. Nearly \$300 in addition to this amount has been ex-

pending in the present year, for the same purpose. We have put in an addressing machine, which has effected a saving of about 20 per cent on the investment in the distribution of the JOURNAL. This machine is also of very great advantage in saving time of the employees in sending out circular letters, etc.

JOURNAL. The JOURNAL expenses for the year, including commissions on advertising, amount to \$5,156.03; of this amount, however, \$982.23 was paid against the old indebtedness incurred prior to 1906. Thus, the cost of the JOURNAL from January to December, 1906, will be found to be \$4,163.80.

ASSETS AND LIABILITIES. The liabilities noted in the statement before you have all been paid since the first of the year, with the exception of the note for \$2,000.00, which is not payable until next year. The statement of accounts, April 1st, 1907, shows a better condition than we could have hoped, six or eight months ago.

REGISTER. The accounts for 1906 are charged with \$453.59, and credited with \$178.08 for Register account, leaving a net expense of \$275.51. This is not properly chargeable to the year 1906, as it was expense incurred in printing the Register of 1905.

It is obvious that the Register will continue to be a loss to the Society, for the reason that most advertisers who desire to appeal to physicians in this State, will use either the Register or the JOURNAL, but not both, and most of them prefer to use the JOURNAL. It is therefore suggested for your consideration that the Register be published the same size as the JOURNAL and be issued as a supplementary part of some number to be issued in the fall, at about the time the Register has heretofore been published. We believe that this will materially reduce the customary loss.

The Register for 1906 was published by Mr. Henry Kaplan at his own risk and expense, and not by the Society, consequently, no items of charge or receipt in connection with the Register are noted.

In order that the work of the Society may be placed upon the footing which it held prior to April 18, 1906, and in order that the remaining liability may be removed, your Council earnestly recommends to this House of Delegates, that the assessment for 1908 be made \$3 per member.

Furthermore, the Council on Pharmacy and Chemistry of the A. M. A. has now reported upon a very large number of preparations, and we are urged to adopt an advertising policy which will exclude from our publications the advertisements of all medicinal preparations which have not been approved by the Council. This will result in a loss of several hundred dollars, as the JOURNAL is now carrying advertisements of several preparations which have not been approved by the Council, and which doubtless will not be approved by it.

Organization. Probably the most valuable work which has ever been undertaken by our State Society is the active organization of the physicians in our State. For four years the work of organiza-

tion, as originally undertaken by your Council, was continued, and for most of that time, actively prosecuted. The disasters of last April, however, and the immediate necessity for the rehabilitation of the office and its machinery, rendered it impossible for us to continue the organization work, largely on account of the expense. In other States great interest is being awakened in medical organization and in joint discussions of topics of general public interest between medical societies, ministerial and bar organizations and public citizens generally.

Your Council believes most thoroughly that if this line of work be continued, if some member of this Society visit all the county societies in the State where public meetings may be arranged and where questions of vital public interest may be presented, not alone to physicians, but to prominent citizens, a vastly different feeling toward our profession will be brought about, and that our efforts in securing public health legislation and improved sanitary conditions will be greatly aided. Nor is this work of benefit to the public alone. There are many Counties in the State where the physicians are now receiving a minimum fee of \$5.00 for all insurance examinations, and this result has been brought about largely, if not entirely, through the organization work of the State Society. It is true that to continue this work and broaden it as herein recommended by your Council, will entail a certain amount of expense, which will have to be met in some way; nevertheless, we believe that the material benefits resulting will be speedily appreciated by practically all members of the Society.

C. G. KENYON,
Chairman.

REPORT OF THE SECRETARY AND EDITOR.

Mr. President and Delegates:

As the duties of the Secretary and of the Editor are performed by the same individual, they will be embodied in this one report.

Owing to the impossibility of locating people immediately after the enforced adjournment of the Society last year, the Secretary was compelled to take upon himself the responsibility for doing many things without warrant of the Council. Whenever possible, however, one or more members of the Council were consulted. Thus it was taken for granted that the Society wished to continue the JOURNAL, and so the May number was brought out, with considerable trouble, in Oakland; for this we are largely indebted to Dr. Frank Adams, who guaranteed the account to the printer.

The action of the Secretary in ordering office furniture and equipment for the restoration of the office was subsequently approved by the Council at a regular meeting.

The regular publication of the JOURNAL was resumed in August and numbers were issued as rapidly as possible until we had caught up. Owing to lack of funds, however, the JOURNAL was reduced to 64 pages and has been held at that size up to the pres-

ent time. It is costing the Society about \$225 per issue, at the present size, and an increase of 16 pages, to the size prior to April, 1906, will increase the cost nearly 25 per cent, or make it approximately \$275 per issue. Up to the present time the Secretary has not felt justified in assuming the additional expense, though the pressure on the columns of the JOURNAL will require that this increase be made at no distant date.

The Council on Pharmacy and Chemistry of the A. M. A. has now considered a large number of preparations and it has been urged that our Society exclude from its publications advertisements of articles which have not been approved by the Council. Your Secretary is heartily in favor of this course, though the application of the rule to the pages of the JOURNAL will result in a loss of $2\frac{1}{2}$ pages of advertising, and necessitate dropping the advertisements of the Oakland Chemical Co., Kress & Owen Co., Fougere & Co. and the Henry Pharmacal Co., with possibly some additional firms. Should you approve of the rule suggested, as I sincerely trust that you will, there are two courses which may be followed: the advertisements may be dropped at once or they may be continued until the expiration of existing contracts. It is not certain that any of these advertisers would attempt to compel us by law to carry the advertisements to the end of the year, but it is at least possible.

In regard to the publication of the Register, it seems clear that it must be published at a loss. I believe, however, that the loss will be materially reduced if it is brought out as a supplement to the JOURNAL and of the same size page. Probably enough extra advertising could be secured to partly offset the loss, and each member would be sure of receiving his Register promptly, and at a very small cost of distribution.

The card index of physicians, which had been gathered at considerable expense and very great effort, was of course destroyed. Its loss is felt every day, not only by the Secretary, but by many members of the Society who write for information about doctors in various parts of the State. In the present campaign against cut-rate fees for life insurance examinations and against the lodge practice evil, the lack of the card index is a serious handicap. The records should be established as soon as the work can possibly be undertaken.

As you know, the Secretary, at the request of the Council, has for some years been engaged in the very pleasant work of organization. It was planned to visit every county society in the State during the year 1906, and the work had been begun when our plans were so rudely interrupted last April. The example set by Dr. J. N. McCormack is inspiring; the few meetings which the Secretary has been able to arrange where mixed audiences have been addressed by him, in the past few months, have shown that the work will be very valuable to the physicians in the State if it can be continued. It is not merely a matter of increasing the numerical strength of the organization, but of making our Society an active

instrument for the betterment of public health conditions, and of conditions within our own profession. It has seemed to me that, during the five years of my work, no single task has been so productive of good as the work devoted to organization. It is strongly recommended that an effort be made to arrange for meetings at various places where the physicians and prominent laymen may jointly discuss some of the problems which so vitally affect us all.

Owing to the continued bad weather and the interruption of communication in various parts of the State, a number of county societies have not yet completed their reports, so that a definite and final statement of membership can not now be submitted. One new society has been organized, Stanislaus, with 12 members. The following societies have gained in membership: Alameda, Butte, Kern, Los Angeles, Marin, Napa, Orange, Placer, Riverside, San Diego, San Joaquin, San Mateo, Santa Cruz, Tehama. The following show a loss in membership: Contra Costa, Fresno, Kings, Monterey, San Bernardino, San Francisco, Santa Barbara, Shasta, Yolo and Yuba-Sutter. The others either have not been heard from or remain as a year ago. When all reports are in, the membership will probably be close to 1,800.

Doubtless the ease with which the newly enacted medical law was secured was in part due to our better organization and the fact that a goodly number of legislators had promised the county societies of their respective districts that they would follow the advice of the society in matters pertaining to medical and public health legislation. Too much credit and praise can not be given to Dr. Parkinson, of Sacramento, Chairman of the Committee on Public Policy and Legislation, for the most excellent and careful work which he did during the session of the Legislature, nor to Dr. McKee, whose services in the Senate were no less conspicuous.

In order to avoid, if possible, a repetition of the spectacle of our Legislature even nearly passing an anti-vaccination bill, it would seem desirable to do a good deal of educational work during the next two years. If each county society will take the matter up and arrange for public meetings at which smallpox, tuberculosis and other subjects can be discussed, much good will result. It is also suggested, in this connection, that a special committee of three of the State Society be appointed, which committee shall attend to placing in the hands of the press of California items of public health interest, and shall be a committee on publicity.

In order to continue the work of rehabilitation and place the Society on a sound footing, it would seem imperative that the assessment for 1908 be fixed at a sum of at least \$3. It is hardly possible that an amount of \$1 per year will be appreciable to any of our members, but in the aggregate it means a good deal to the Society. Furthermore, the mere material benefits which have resulted from organization and the work of the State Society should not be forgotten. A good many physicians

in this State are receiving a minimum fee of \$5 for life insurance examinations who would not receive this fee had it not been for the organization work already done and the general agitation of the question.

In order to carry out the suggested public meetings, it occurs to your Secretary that possibly a fund for this purpose might be raised by asking the county societies for voluntary subscriptions, all money thus received to be set aside for that special end.

In closing, the Secretary feels that possibly some word of apology is due you from him. The tasks of the past year have not been easy; many things had to be done hastily and often with little to do them with; some things have had to go undone. Annoyances, innumerable and petty, but none the less trying, have been the order of the day; and some times tempers have been a bit strained. Immediately after the fire the office of the Society was called upon to do almost as much work as before, and with nothing to do it with; therefore some correspondents may not have received that degree of courteous attention which they ordinarily would secure. If any such there be, to them your Secretary offers this explanation and his apologies.

Respectfully submitted,

PHILIP MILLS JONES,
Secretary.

ALCOHOL: THE EFFECT OF ITS USE AND ABUSE.

By ANDREW W. HOISHOLT, Assistant Physician, State Hospital, Stockton, Cal.

Continued from March.

The cost of committing and transporting this number an average distance must have been more than \$3,000, judging from a bill, a copy of which is in my possession, presented to the state for a patient sent from Oakland to Stockton, which was \$45.

This sum of \$3,000, and perhaps considerably more, which is annually expended in this manner, does no real good for the patient—it only serves to increase the income of the sheriff's office.

One of the reasons for the large percentage of delirium tremens received at the California asylums, is the incapacity—partly on account of carelessness in a hurried examination and partly on account of the insufficient knowledge—of the examiners in lunacy at some of the county seats. Every now and then we receive patients who are either on the point of recovery from delirium tremens or have completely recovered from the attack by the time they arrive at the asylum. It must be said in justice to the Superior Judges of San Joaquin County, that since they have been spoken to about this, cases of delirium tremens have not been received at the asylum from that county.

With regard to the effect of alcoholic abuse upon the progeny of the individual there can be no doubt that such children are more apt to become

insane or develop criminal instincts than children of healthy parents; they are also more apt to develop symptoms of other nervous diseases, are apt to be feeble-minded, epileptic, show physical deformities, or have marked drinking habits. Aside from the inherited neuropathic tendencies the children in a drunkard's home usually receive a poor education surrounded by untidiness and misery and are influenced by the bad example before them. According to Bournvilles, about one-third of the living children of alcoholic parents suffer from epilepsy and more than one-half of all idiotic children have alcoholic parents. (9) Aschaffenburg, in his book on "Crime and the Warfare Against It," gives a very instructive genealogical table of a drunkard whose history for two succeeding generations he had studied. The father had five sons, two of whom were normal, three were drunkards and died of heart-disease. The first of the latter had five children, two of whom were prostitutes, one of them a criminal. The second inebriate son had three children, one, a prostitute, the second normal; the third, a worthless fellow. The third inebriate son had two sons, one was a drunkard who died in an attack of delirium tremens; the second died of smallpox. The youngest normal son had six children, two of whom died early. Of the four living children two sons were drunkards, one daughter likewise drank to excess; only the oldest daughter was normal. Among sixteen grandchildren, of whom thirteen grew up, only five were normal. Such is the sad inheritance which the child of a drunkard brings with him into the world!

Kraepelin has taken a great interest in the struggle against the abuse of alcohol. The wide scope of his observations in psychiatry prompted him to say a few years ago that "while the etiology of many mental diseases is still unknown or at least beyond the scope of the investigations so far undertaken, nevertheless we are acquainted with some important and widespread causes of insanity, and their removal is not only one of the duties of the state, but its accomplishment is also within its power. Among these causes stands first and foremost the abuse of alcohol."

The state has everywhere found it difficult to do very much toward the solution of this problem. Still in some countries, notably in Sweden, it has met with some success through high license and a high tax on all intoxicating liquors. The pure food bill, recently made a law in this country, may do a great deal toward remedying the evil if it make it obligatory to have printed on the label of every bottle of intoxicating liquor the rate per cent. of alcohol present in its contents. In many countries and in many states of the Union the so-called "homes for inebriates," which have been established by public and private means, are no doubt doing, or could do much good, if so managed as to concentrate all efforts upon the strengthening of the will-power and if a long continued interest were taken in the individual case, aiming at per-

manent cures and not simply at tiding the patient over the effects of a single debauch, preparing him physically for the assumption of the old habit. San Francisco at one time had such a home which was, however, not well managed. It has been and still is in need of an up-to-date public home of this kind, where the inebriate could be completely diverted from the use of liquor and be protected by as many safeguards as possible against temptations from without and from within, and where he could remain for at least a year. If California should establish such public institutions near the two great centres of population in the state, the county judges could in certain cases of alcoholism, whether associated or unassociated with petty crimes, send the case to the home for a fixed length of time, instead of sending him to jail.

In this connection I wish to say a word for the alcoholic who is arrested as a common drunk. If it were generally known how the average jail takes care of the drunk brought to it, there would be a howl of indignation throughout the state. I have seen a half dozen drunks thrown into a room 9 x 18, and I have been told that at times such a room would hold ten or twelve, in which there would be one stationary washstand and one stationary stool for defecation. The inmates lie on mattresses placed on the floor, dressed as they arrive, without blankets. Many people would perhaps say that they do not deserve better treatment. Aside from general humanitarian considerations, it might be asked why the sufferer from the results of one poison, syphilis, should be shown tender mercy at a county hospital, when the sufferer from the effects of another poison, alcohol, receives the above treatment. Are the worshipers at the shrine of Venus so much better than those who cast admiring glances at Bacchus? But the treatment of the common drunk at the average jail is not only brutal, but it adds its force toward the degrading influence of liquor.

A variety of remedies have been applied to the cure of alcoholism in the past ages; from painting the patient black—as a Yorkshire farmer did to his inebriate wife, which cured her for a month—and the immersion of intoxicated women suspended over water in a chair, which was hoisted up and down three times—an ancient custom in Holland—to our latest fads, the gold cure and other forms of hypnotism. While the last mentioned as auxiliaries to the work of the home for inebriates have undoubtedly accomplished some good, the greatest good must be expected from instruction of the general public as to the grave dangers connected with the daily indulgence in liquor, which a large number of individuals should avoid altogether, and which perhaps not a majority can practice to moderation with impunity. This instruction should begin with the education of the child, not in Sunday-school but in the public schools.

The opportunities for drinking have been and still are manifold. As Bunge says of German cus-

toms: "Men take liquor when they meet and when they take leave; when they are hungry, to satisfy their hunger, and when they are satisfied to stimulate an appetite; when it is cold to get warm; when it is warm to cool off; when they are sleepy to keep themselves awake; when they are sleepless so that they may sleep; when they are depressed to jolly up; when they are elated to give expression to their joy; and when they are baptized, confirmed, married and buried."

The occasions for voluntary indulgence in liquor are so great that all customs or circumstances which place one in positions where he feels compelled to drink, should be fought. For instance, in many first-class restaurants, and there were several in San Francisco before the fire, where one would be charged for wine whether he ordered it or not—the cost of the wine one did not order would be found added to the dinner bill.

There is no doubt that the support which the abstinence or temperance societies give to the enfeebled will-power created in the drunkard by the alcohol, is a very valuable means in the fight against the temptation of liquor. The enthusiasm stirred up by the association-life, the exchange of thought and the literature on the subject does much to save many who otherwise would sink back into the abyss where those who enter leave all hope behind. Still it would seem that the crusade against alcohol is so well justified and founded upon scientific facts, that it should not be necessary to have the cause join hands with religion, especially when it is remembered that many of the most helpless victims are perhaps as much injured by the intense emotional excitement of religion as they are by alcohol. If the Woman's Christian Temperance Union should do its work as "the Woman's Temperance Union," leaving the preaching of religion to the church and missionary societies and confining itself to the demonstration of physical facts and common sense reasoning, I think it would have still better results. Especially if its members would be careful in holding themselves to facts and remember, as Dr. Hallager says, "that even the greatest projectiles do no good if they do not hit, the point being not to shoot over the mark which the leaders of the temperance-cause often do when they bring figures into the field." The good work of the temperance cause would be greatly augmented if the medical profession would en masse take a hand in the fight against the evil. Its members have more than any other class of individuals had opportunities to study the evil effects of alcoholic abuse and if they were banded together in this fight with the enthusiasm they have shown in other fields as good results might be expected as have been achieved in the fight against tuberculosis and yellow fever.

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CONCERNING GENU VALGUM ADOLESCENTIIUM.

By JAMES T. WATKINS, M. D., San Francisco.

During a visit to the Instituto Del Rachitici di Milan, some notes, dictated in part by its director, the late Professor Pietro Panzeri, were made by the writer, of an operation for the correction of genu valgum staticum or adolescentium. It consisted in opening, by a forced brisement, the outer part of the lower femoral epiphysis, "epiphyseolysis."

Upon returning to Vienna permission to demonstrate the operation was requested and received.

Experimental operations were first performed upon the cadavers of two boys of suitable ages, to remove from the field of speculation whether or not a true epiphyseal separation would regularly follow a properly executed operation. These experiments were never published.* Comparatively recently the opinion has been put forward** that in a majority of these cases instead of an epiphyseal separation, an opening of the outer articulation would occur. In dissenting from this opinion these experiments are offered in detail.

At the outset it should be noted that this operation was not recommended for all varieties of genu valgum. Rachitic children of from two to eight years presenting knock-knee were treated for their rachitis and by the application of appropriate apparatus. Operations were discountenanced in these instances.

Older children and adolescents with genu valgum complicated by other deformities, as well as adults, were subjected to osteotomies.

Adolescents up to eighteen years of age, usually persons whose occupation necessitated the long continued maintenance of a standing position, bakers, type-setters, etc., who presented an uncomplicated genu valgum, were treated by epiphyseolysis. In this group of cases the deformity was said to appear late, to be neither preceded nor accompanied by recognizable symptoms of rachitis, and to be confined, as a rule, to the femur in the neighborhood of the knee-joint.

In such an event the most nearly ideal operation would be one which corrected the deformity nearest the joint. A glance at a radiogram of the leg of any growing child will show that an epiphyseal separation must, if feasible, be such an operation. The upper attachment of the joint capsule, be it remembered, reaches as far as the epiphyseal line, but not beyond it.

The technic of Panzeri's operation is exceedingly simple. A strong box, twenty centimeters high by as many long and broad, with well rounded edges, is fixed to one end of a table. The top of the box is slightly concave from side to side and slopes per-

haps ten degrees towards the end of the table. The patient is placed upon the table and completely anesthetized. He is then turned on his face with the limb to be operated upon brought uppermost by rotating it strongly outward. The patient is drawn down towards the end of the table, till the leg and knee project beyond the farther edge of the box. An assistant, who stands on a stool, grasps the thigh with both hands, and fixes it on the box by throwing his weight upon it. About one centimeter of the internal condyle of the femur should project beyond the lower edge of the box. A second assistant affords further fixation by holding the knuckles of his fist against the femur just above the patella. The operator stands at the foot of the table behind the patient's leg. The ankle passes under the operator's arm. With both hands he grasps the patient's knee in such a way that he can determine the condition of the external lateral ligaments and of the epiphyseal line; while his fingers inform him of the position of the internal condyle. All is now ready for the brisement force. While making slight traction, the operator rapidly sinks his body by bending his knees, and throws his weight on the end of the lever afforded by the patient's leg. In so doing, he is careful to apply the strain in the frontal plane of the patient's leg. His own knees enable him at all times to regulate and control the amount of force used. A low-pitched sound of long duration, not unlike that produced by tearing a not-too-dry crust of bread, announces the opening of the outer epiphysis. This sound is entirely unlike the sharp report which is heard with a supracondylar osteoclasis. A cupping of the skin similar to that seen at the site of a subcutaneous Achillotomy appears over the epiphyseal separation. The procedure should be carried to overcorrection, however, as the subsequent dressing must maintain the improved position without tension. The complete relaxation produced by a deep narcosis, and the very rapid application of the force in the direction of its frontal plane to the fully extended leg, are necessary to the successful performance of the operation.

It was Prof. Panzeri's experience that these cases, if at once put up in plaster-of-paris dressings in the corrected position, sometimes developed a peroneus paralysis. Consequently it was his custom to supply them with papier mache splints in the uncorrected position for the first four days, and then to correct the deformity under narcosis, and apply a plaster-of-paris bandage from the lower ribs to the toes. On the fifteenth day after the operation the plaster was removed below the malleoli and above the inguinal furrows to enable the patient to hobble about. On the fortieth or fiftieth day after the operation the plaster dressing was completely removed, and after three or four days' treatment of the knee-stiffness by baths and massage, he was discharged cured.

A number of photographs and radiograms of patients taken before and after treatment were seen at the Instituto Rachitici, and several cured patients were examined.

The experimental operations done in Vienna upon

cadavers were in no way different from that just described except that in the absence of a specially constructed box an autopsy head-block was used. Post-operative dissections of all four knees were made. The first subject was a well-grown boy of twelve years. In the first knee attacked, a true epiphyseal separation resulted, but the edge of the head-block must have been too sharp, for subsequently a small intra-articular fissure was discovered in the cartilage of the internal condyle.

The other leg of this subject met with an accident. The internal condyle was permitted to slip downward off the head-block. This was observed too late to prevent a fracture just above the condyles—a typical supracondylar osteoclasia.

The operations upon the second cadaver, a boy of fifteen years, were attended with complete success. In each instance, the separation occurred in the epiphyseal line, and was unaccompanied by injury to any other structure.

The dissections of the first, third, and fourth legs, that is, those in which a true epiphyseal separation had occurred, showed that the periosteum had become separated from the bone for a distance of 1 to 2 centimeters above and below the epiphyseal separation. It had remained unbroken, however. In the second, the fracture had taken place exactly at the junction of the condyles with the shaft. It was a clear transverse break, except for a tooth-like process half a centimeter long which appeared in the median line of the anterior aspect of the upper fragment. In this case the periosteum was broken on the outer side of the fracture.

In no instance was the epiphysis of tibia or fibula injured.

A few days later, a twelve-year-old girl was operated upon by the writer at the klinik of Prof. Lorenz. On the right side the usual supracondylar osteoclasia was performed; on the left side, which presented the greater deformity, Panzeri's operation was carried out. On examination and comparison of results a verdict was given for the latter operation. It is still the operation of preference in that klinik and is employed in a rather broader group of cases than that for which it was advocated by Prof. Panzeri.

A REPORT OF THE FIRST TWO HUNDRED CONFINEMENTS AT THE SAN FRANCISCO MATERNITY*

By ALFRED BAKER SPALDING, M. D., San Francisco.

Before the opening of the San Francisco Maternity, the medical students of San Francisco received an incomplete training in practical obstetrics, that important branch of medicine which so often forms the basis of their future practice. Formerly many students graduated from the local medical colleges before they had made their first antepartum examination, before they had attended a woman in confinement, and before they had visited a puerperal

patient or changed a baby. Some even, as can be verified by questioning local practitioners, graduated and were admitted to practice by the state examining boards before they had even witnessed a confinement!

It is interesting to trace the cause for this long-continued failure on the part of the medical colleges to properly train their students in such an important branch of practice. The matter became of particular interest to the writer some years ago when he was placed in charge of the obstetrical department of the University of California. A year was spent in studying the situation, in writing and questioning teachers, practitioners, students and the associated charities. In this way the following facts were ascertained:

(1) It costs more to properly equip and maintain an obstetrical dispensary than the students can pay.

(2) The classes of the local medical colleges are not large enough for any one college to furnish enough students to run a dispensary the year round, unless the student should slight his other work.

(3) The faculties of some of the colleges hesitated to add to the already too large number of free dispensaries, from fear of injuring the local practitioners.

(4) A certain class of physicians, and especially midwives, are willing to confine women for fees ranging from five to ten dollars.

(5) The associated charities, the settlement workers and the dispensaries run by various charitable organizations have always been able to obtain physicians to care for their obstetrical patients in return for the experience it gives them, for the opportunity they have to increase their private practice, and for the occasional surgical patient they secure for operation.

(6) The various charities considered it immodest to allow students to assist in the deliveries, and some feared that the student would do away with the visiting nurses.

(7) It was thought that the students could not give the patients good medical care.

To correct the acknowledged evil of graduating incompletely trained students and forcing them to acquire their experience later at the expense of an unsuspecting public, it was found necessary, on account of the above objections, to establish an independent institution, outside the control of any college, but open to the students of all colleges, supported by popular subscription and devoted not only to giving the best of care to really needy patients, but also to instructing physicians, students and nurses in practical obstetrics.

In this paper it will be attempted to describe briefly the system employed at the dispensary to care for the patient and instruct the student. The statistics presented in regard to the pelvis, the complications, the presentations, the operations performed, the morbidity and mortality met with, are brought before you, not because the results obtained add anything to the store of knowledge in regard to obstetrics, but to demonstrate the fact that just as

*Read before the San Francisco County Medical Society.

good results can be obtained at an obstetrical dispensary run on the academic plan as are obtained in the best maternity hospitals. I believe that this is a fact, not in spite of the student, but because of the student. Because of his watchfulness, because of his enthusiasm, because of his study and training and because of the discipline he is under, the medical student, worrying over any variation from normal, fearing to trust himself too far, reports promptly the condition of patients and carries out his instructions faithfully.

The present report considers the results obtained with the first two hundred women, who were confined, with one exception (a Cæsarian section), in their own squalid homes, attended by the students and nurses of the dispensary, under the supervision of a physician.

The dispensary building serves merely for administrative purposes, containing an office, examining room, interne's room, matron's quarters and students' rooms. Here the student lives for a period of two weeks, receiving lectures on practical obstetrics, examining pregnant women, attending with a physician women in labor, and visiting women in all stages of the puerperium. The pregnant woman is first questioned carefully concerning her social and financial standing, and if considered a proper patient for the institution a medical history is taken by the junior student. This is followed by a complete physical and obstetrical examination made by a physician and the senior (second week) student, which includes a study of the breasts, abdomen, pelvis and vagina. She leaves a specimen of urine, is requested to return in a month for re-examination, and is given a card to send in when in labor.

When called, both students and a pupil nurse take to the house a kit composed of Edgar's trays which contains all the sterile dressings, drugs and instruments necessary for delivery. A physician calls during the labor to supervise the work and instruct the student. The patient is delivered on a Kelley pad surrounded with sterile towels. All examinations are made with a sterile glove, no douches are given (except for hemorrhage), the baby's eyes are treated by Crede's method, the cord is dressed with salicylic acid, and the patient given a supply of sterile pads. After labor the patient is visited every morning by the pupil nurse and every afternoon by one of the students. On the tenth day, if everything is normal and the baby gaining in weight, a complete examination is made by the physician and senior student and the patient is discharged.

Careful and complete records are kept of patients during pregnancy, parturition and the puerperium. Errors are easily recognized and corrected because the patient is seen and studied by so many different observers.

Of the first 200 hundred women confined 111 were native-born, while 86 were born in foreign countries, the nationality of three not being noted. There were 198 white women and 2 negroes; 153 multipera and 47 primipera.

In order to appreciate the results obtained it will

be necessary to consider first the character of the pelvis met with, the presentations and positions, the complications encountered and the operations performed. We will consider first the

Pelvis.—The external oblique measurements have, together with the true conjugate, formed the basis for a diagnosis between a normal and a contracted pelvis. When the external oblique diameters measured between 20 and 24 cm, and the true conjugate measured over 10 cm, the pelvis has been classed as normal. With external obliques over 24 cm, the pelvis has been classed as justo-major. When the external obliques measured under 20 cm and the true conjugate was less than 10 cm, the pelvis has been classed as justo-minor. Any pelvis with a true conjugate less than $9\frac{1}{2}$ cm was classed as flat. Only one irregularly shaped pelvis was met with. With the above method of classification, 92 per cent of the patients have been found to have normal or enlarged pelvises, while 8 per cent had contracted pelvises. Of the 15 patients having contracted pelvises 4, or 26.2-3 per cent, had abnormal labors. In detail the classification is as follows: Normal, 143; justo-major, 26; justo-minor, 2; flat, 10; justo-minor flat, 2; coxalgic, 1; not measured, 16; total, 200. Rachitis was noted in 8 of the 143 normal pelvises, and in 2 (one rachitic-flat and one rachitic-coxalgic) of the contracted pelvises.

Presentation and Position.—The diagnosis of presentation and position has been based upon abdominal palpation, vaginal touch, a study of the mechanism during labor, and an examination of the fetal head for molding and caput. An unusually large number of abnormal presentations were met with. Only 90 per cent presented by the vertex, while over 8 per cent presented by the breech, and the remaining 2 per cent represented such unusual presentations as brow and transverse. Of the 153 vertex cases 136 were in an anterior position, 17 were in a posterior position, 95 had the occiput pointing to the left and 58 had the occiput pointing to the right. Two cases remained persistent occipito-posterior and were delivered as such over the perineum. Nine of the 14 breech cases were frank breech presentations, 8 of which were delivered as such without any serious impactions. Seven of the 200 deliveries were operative on account of the abnormal presentation or position. The following sums up completely the presentations as found:

Vertex, 153—l. o. a., 89; l. o. p., 6; r. o. p., 11; r. o. a., 47.
 Brow, 2.
 Breech, 14—l. s. a., 3; l. s. p., 3; r. s. p., 1; r. s. a., 7.
 Transverse, 1.
 Not noted, 30.
 Total, 200.

Complications.—As pointed out above, the patients had about the usual number of contracted pelvises, together with an unusually large number of abnormal presentations and positions. When the adverse surroundings of these patients is considered, the following comparatively small list of complica-

tions becomes more serious as affecting the prognosis. Only the more serious conditions complicating pregnancy, labor or the puerperium will be mentioned.

During pregnancy one patient had an attack of acute jaundice which caused a premature delivery. Two patients were syphilitic; one with tertiary symptoms had a premature delivery; the other, infected during pregnancy, carried her child to the full term. One patient had an attack of lobar pneumonia during the last week of pregnancy, which caused the onset of labor pains on the third day of the fever. One patient had placenta previa, which demanded an emptying of the uterus during the seventh month of pregnancy. In addition there were noted one patient with aortic regurgitation, one with an inguinal hernia, and one with uterine fibroids. In regard to the fetus, seven died in utero, one syphilitic, one a monster (chondrodystrophia-fœtalis), one placenta previa, and four from unknown causes.

During labor there were four cases of accidental hemorrhage, six cases of post-partum hemorrhage, two cases of prolapsed cord, and twenty-eight cases of asphyxia neonatorum.

During the puerperium there was one case of retained membranes, which the patient passed on the fourth day, without fever; one post-partum eclampsia, one ether pneumonia, and one case of secondary post-partum hemorrhage. In addition, three babies developed gonorrheal ophthalmia (one case followed the neglect to use silver nitrate, and in the other two cases the technic of instilling the drops was faulty), five babies had bloody vaginal discharges, two babies had distended breasts, and with two the cord became infected.

Operations.—Although the institution is a teaching institution, the percentage of operative cases is very small. The reason for this is that operations were performed only for the benefit of the mother or the child, only when definite indications were present, and never simply for the purpose of demonstrating the technic of an operation. It is the purpose of the institution to develop obstetrical judgment rather than obstetrical technic. As a result, the records are of great value to the student in showing him how many difficulties can be overcome by nature. They show him definite indications for interference and illustrate the seriousness of solving a real obstetrical problem. One hundred and seventy-four, or 87 per cent, of the patients had spontaneous deliveries, while 26, or 13 per cent, exclusive of perineorrhaphy, were operative. The following operations were performed, classed according to the indication:

For contracted pelvis—Cæsarian section, 1; high forceps, 1; partial internal cephalic version, 1; breech extraction, 1.

For abnormal presentation and position—External version, 1; partial internal podalic version, 1; partial bipolar cephalic version, 1; breech extraction, 2; low forceps, 2.

For hemorrhages—Braxton-Hicks version, 1; in-

ternal podalic version, 1; interuterine douche, 6; uterine tamponage, 1.

For uterine inertia—Manual dilatation of cervix, 8; mid forceps, 5.

For adherent membranes—Manual extraction of membranes, 3; manual extraction of placenta, 1.

Results.—It is now recognized that a large number of women can not escape local injury to the genital tract during the process of a physiological labor. And it is also recognized that formerly very few women received proper examination or repair of these injuries, at the time of labor. In the present paper the lacerations will be included in estimating the results, although a more scientific arrangement would include a comparison of the genital tract as found during pregnancy and as found ten days after labor.

(a) Lacerations.—No immediate examination or repair of the cervix was attempted, but the anterior and posterior walls of the vagina and the skin over the perineum were carefully inspected, and any break in continuity has been recorded as a laceration, although the ones involving simply the mucous membrane, where the deeper structures were firm, were not repaired. No tear involved the sphincter ani. In all there were 57 lacerations recorded, or 28½ per cent. Twenty occurred in primipera, 37 in multipera; of the 47 primipera delivered, 14, or 30 per cent, required a perineorrhaphy, while with the 153 multipera 17, or 11 per cent were repaired.

(b) Morbidity.—The temperature of the mother was taken morning and evening until discharged. Of the 200 women 25 ran a temperature of 100.4 deg. Fahrenheit or more, for part of one day up to thirty-five days, making a total morbidity of 12½ per cent. The cases are as follows:

	Diagnosis.	Duration.	Highest temperature.
			Degrees.
1	Doubtful	2 days....	100.4
2	Doubtful	3 days....	101.0
3	Doubtful	1 day	102.2
4	Hot weather.....	1 day	100.8
5	Reaction	1 day	100.4
6	Reaction	1 day	100.8
7	Reaction	1 day	100.8
8	Reaction	1 day	101.5
9	Constipation	2 days....	101.0
10	Constipation	1 day	101.1
11	Neuritis	3 days....	103.0
12	Malaria	5 days....	100.6
13	Ante-partum pneumonia..	4 days....	103.8
14	Ether pneumonia, tuber- cular	35 days....	103.8
15	Eclampsia	1 day	101.5
16	Mastitis	1 day	100.6
17	Mastitis	5 days....	100.8
18	Mastitis	1 day	101.0
19	Mastitis	1 day	101.8
20	Mastitis	4 days....	102.0
21	Mastitis	6 days....	103.5
22	Mastitis	2 days....	103.6
23	Necrosis labia majora....	10 days....	103.0

24 Uterine sepsis..... 9 days....103.8

25 Uterine sepsis.....11 days....105.8

(c) Mortality.—There was no maternal mortality.

The fetal mortality consisted of 9 stillbirths, and 9 babies died during the first eleven days, making a total fetal mortality of 9 per cent.

Died before labor, 7—Chondrodystrophia foetalis, 1; ninth month, 2; seventh month (placenta previa), 1; fifth month, 1; fourth month, 1; syphilis, 1.

Died during labor (premature), 2.

Died after labor, 9—Atelectasis, first day, 3; premature (incubator), second day, 1; accidental suffocation, fourth day, 1; infected cord, general peritonitis, cerebral hemorrhage, fourth day, 1; cerebral hemorrhage, ninth day, 1; infected cord, gastro-enteritis, meningitis, tenth day, 1; acute gastro-enteritis, eleventh day, 1.

Conclusions.—From the above statistics it will be seen that 200 poor women have been confined in their own homes without a maternal death and with a fetal mortality, considering only the 191 babies alive at birth, of less than 5 per cent. A total morbidity of only 12½ per cent is exceptionally low and would be hard to equal in a good maternity hospital. To attain such results amidst adverse surroundings, with a class of patients who are underfed and under-clothed, and who are often suffering from the social diseases of the poor, such as chronic alcoholism, syphilis and gonorrhea, to carry these patients through a fairly large number of abnormal labors and protect them and their offspring from their surroundings and their diseases, is a benefit not only to the poor and a saving to the community, but, on account of the teaching and experience gained by the future practitioner, is both a benefit and a saving to the medical profession.

The San Francisco Maternity offers three interne services each year to regular graduates in medicine. The interne must devote his entire time to the dispensary for a period of four months. In return the society gives room, laundry and \$35 a month, which is sufficient to cover all necessary living expenses. Applications for service beginning November 1, 1907, and March 1, 1908, are requested, and should be directed to the Medical Director, San Francisco Maternity, 1195 Valencia street, San Francisco.

A CASE OF POISONING BY SMALL DOSES OF ATROPIN.*

By HENRY WALTER GIBBONS, M.D., San Francisco.

Cases of poisoning by atropin are not very uncommon; but, as there are several points of interest in the following case, it might be of interest to report it.

On December 11th, at noon, I was called to see Mrs. S., a woman of seventy-one years, who had been suffering from bronchitis for about two weeks. She complained of cough, especially at night, accompanied by excessive secretion with a large amount of sputum and rattling in the throat.

Previous history: During early life the patient had been well, but of nervous temperament. She

had three children. For a period of seven or eight years before her menopause the patient had been an invalid, suffering from dysmenorrhea and probably salpingitis, and was confined to bed a good part of that time. For the last ten years, with the exception of an attack of lobar pneumonia a year ago, she has been well, though nervous. For the last year she has shown signs of failing mentally, incident with advancing age.

On examination was found a fairly well nourished old lady, quite well preserved, active, intelligent and apparently sound in mind. She had cough which was worse at night and upon rising. There was no pain. Appetite good; sleep fair, disturbed a little by cough; bowels regular; lungs negative except for a few rales heard throughout; heart negative; pulse 80, temperature 98°; abdomen negative; urine negative.

Mild laxative was prescribed, heroin and terpin hydrate and pills of atropin sulphate, gr. 1-100, one to be taken at bedtime.

On the evening of December 11th the patient took one of the atropin pills and did not have her attack of coughing upon retiring. On December 12th I saw her. She was much better and I was informed that it was not necessary to see her again. On the 14th I was called again and learned that on the evening of December 12th the patient had taken another pill, and that night had become very restless, sleepless and delirious, picking at the bed clothes, trying to get out of bed, talkative and irrational. The next day the symptoms had continued, though milder, and on that night she was given another atropin pill.

When I saw the patient on the following day she was sitting up in bed, where the attendants had great difficulty in keeping her. Her fingers were continually busy picking at the bed clothes, buttoning and unbuttoning her sack. She talked constantly in a rambling sort of way, changing from one subject to another with great rapidity. Said she felt quite well and wondered why she was kept in bed. She would pick up a fold of the bed clothes, ask what this was doing here and demand that it be removed. She thought that she was constantly surrounded by bugs, would see them running in all directions, and ask that they be taken away. She answered questions when put to her sometimes correctly. She did not realize that her actions were not normal. She recognized a daughter who lived in another town and whom she had not seen for months, but treated her coming as a matter of course and spoke to her as if she had seen her but yesterday. Her memory for recent events was very vague, but for events eight or ten years back it was exact. She lived in a sphere of her own, talking to inanimate objects as if they understood, oblivious to what went on about her except when addressed in a loud voice.

She appeared very bright and animated, her face was flushed, eyes had a fixed look, but were very bright. The pupils were very widely dilated and there was no reaction to light or accommodation. The throat and tongue were dry, voice slightly husky, and she complained of the throat being sore. She had no pain. Lungs and heart negative. Breathing 18 per min. Pulse regular, full and rate only 80. The urine was voided normally and examination of it was negative. Temperature 99.2°, which remained for three days about the same.

That night the patient was given ¼ grain morphin, hypodermically. She slept most of the night. On the following day the symptoms were just the same. More morphin was given, which quieted her for six hours, when the symptoms again returned. This condition persisted for three days more, making five days the duration of the delirium. For three days more she was slightly wandering in her speech.

*Read before the Cooper College Science Club.

The pupils were smaller on the second day after the last dose, and on the three following days gradually contracted to normal size with normal reaction. The appetite remained good during the whole attack. For the last three days a solution of tincture of valerianate of ammonia was given.

For a week after the disappearance of the symptoms the patient was quite weak and remained in bed with no desire to get up. At present, one month later, she is quite herself again.

The points of interest in this case are several.

First the dose of 1-100 grain by mouth repeated on three successive nights seems hardly enough to produce such severe and lasting symptoms. It is possible that one or two of the pills may have contained much more than 1-100 of a grain. Stalberg reports a case of severe poisoning in a man who had been taking pills containing 1-240 of a grain of atropin, over a long period of time, who suddenly developed alarming and characteristic symptoms after taking one of the same pills, which evidently contained an overdose. The pills in my case were dispensed from a nearly empty bottle which had been put up by a manufacturing drug firm of good reputation. All the other pills from the bottle had been given out and had caused no poisoning to the knowledge of the druggist. It is, however, possible that the small doses did cause the symptoms, as some individuals undoubtedly have a marked idiosyncrasy toward the drug as is frequently seen by oculists who inject small doses into the conjunctiva. H. C. Wood gives 1-10 to 1-12 of a grain as the dose which may produce poisoning. Dr. Henry Gibbons, Jr., had a case in his practice of a man of middle age who applied a belladonna plaster to his back. He came to that office on the following day complaining that he could not see and that his mouth and throat felt very dry. Woodman and Tidy state that death has followed the application of a belladonna plaster over a sensitive surface and that the application of atropin ointment to a raw surface has proved fatal. Ives had a case of a girl 5 years old who had active delirium for twelve hours following the dropping in each eye of one drop of a solution of atropin, 1 grain to two ounces, on six successive days.

Every practitioner is accustomed to give 1-100 grain or even 1-60 of a grain hypodermatically with no untoward effects; and it was common at the City and County Hospital, San Francisco, to give patients very weak in the last stages of consumption, 1-50 grain night after night. From this it would appear that it is not the physical condition of the individual which makes him susceptible, but rather his idiosyncrasy toward the drug. Whether extremely nervous individuals or those with the weakened mental faculties of old age are more susceptible to delirium, it would be very interesting to investigate. As the direct systemic effect of the drug is entirely on nerve tissue (Rosby) it might be possible that those with less resistance or high-strung nervous systems are more prone to the effects of atropin.

Another point of interest in my case was the marked effect upon the nervous system. The class of symptoms so produced was much more violent than the others described as occurring in cases of poisoning. She had no rash of the scarletina variety

which has often been described, although her face was flushed. The pulse, respiration and temperature showed very little change. Wood states that the pulse rate is usually stimulated to 120 or 160 per minute and the respiration is accelerated, which conditions remain during the active delirium. I did not see the patient until twelve hours after the last dose had been taken, but at no time after that was the pulse above 80 or the respiration above 20, although the delirium continued unabated. The lack of acceleration of the heart-action may be explained by the advanced age of the patient. It has been found that the inhibitory action of the vagus upon the heart is more or less lacking in old people. Atropin normally acts upon the vagus, causing a paralysis of its inhibitory fibres, thus allowing an acceleration of the heart-rate. If these inhibitory fibres are not active in the aged, then a paralysis of them by atropin would not effect the heart-rate, which would be controlled, as before, uninfluenced by the vagus. There was no retention of urine or vesical tenesmus, as is so often described, and no purging. It is possible that her mental faculties were most prominently affected on account of their impairment by age. It has been found that the alkaloid acts directly upon the cerebral cortex, so it may be, where this part of the nervous system is weakened or overexcitable, it is more easily influenced.

Another interesting point in this case is the long continued active delirium. These symptoms continued over a period of five days. In most accounts of the effects of the alkaloid in reported cases, the stage of excitement is much shorter, followed by one of marked depression. Thus, the delirium in Stalberg's case, although more violent than in mine and accompanied by more alarming constitutional symptoms, lasted only six hours. In a case of Holz it was the same. In a case reported by Taylor in a boy of 14 years, who ate thirty belladonna berries followed by very alarming symptoms, the delirium continued but two days. In Ives' case the delirium lasted twelve hours. In a case of Goddard there was complete return to sensibility in five hours. In that of Cartright, sixteen hours. In a case reported by Taylor of a woman who drank one ounce of belladonna liniment, the symptoms lasted twenty-four hours. Thus, in the light of these reports, when the fourth day passed and the fifth with no ceasing of the delirium it became rather disconcerting and some permanent mental derangement was feared.

The dose of atropin which may prove fatal is variously stated by different authors and certainly varies greatly with the individual. Hamilton states that the smallest fatal dose recorded is 1-30 gr. hypodermically, while Woodman and Tidy state that recovery has followed ingestion of 1.5 gr. Dr. Eliot saw a patient recover after taking four grains, and recently Goddard had a patient recover from a dose of five grains of atropin.

The aim of the treatment is to get rid of the drug by stomach pump and emetics, if seen soon after the poison has been taken, and free evacuation of the bowels; and by administering animal charcoal, or tannic acid. The charcoal, as has been proven by experiment, absorbs the alkaloid; tannic acid renders

it insoluble. Sweet spirit of niter is recommended to increase the action of the kidneys. Wiechowski recovered 33 per cent injected atropin from the urine. It is well, therefore, to catheterize to prevent reabsorption from the urine. Pilocarpin is regarded by Small as the most efficient antagonist, as its action on the heart is directly opposite, by restoring the inhibitory action of the vagus after it has been paralyzed by atropin. It also promotes action of glands inhibited by the alkaloid. As morphin contracts the pupils it has been suggested as a physiological antidote, but many claim that, as a physiological antidote, this is as far as it goes. Yet clinical experience has demonstrated its great value in combating the delirium of atropin poisoning. Holz, in a recent report, states that the antagonism between morphin and atropin is established, that morphin is not a chemical antidote but it stimulates the nerves paralyzed by atropin.

Dr. Sewall, discussing the paper read by Dr. Gibbons on "Atropin Poisoning:" This paper is very interesting and I am especially concerned with what the doctor said in regard to the length of time the delirium continued. I have seen a number of cases in the service of Dr. Barkan, but in nearly all these cases the delirium has only lasted for a few hours. Sometimes it has been very violent. In children the delirium has been brought on by as little as three drops of 1 per cent atropin solution dropped into the eyes, although we make it a rule always to apply the finger over the lachrymal sac. In a case which we had recently, it was necessary to use a great amount of atropin and for a long time. In spite of all the medication the pupil had a tendency to contract. We used large doses of atropin instilled into the eyes. The patient took the drug very well for a time, then suddenly the nervous system showed signs of derangement and later he had those symptoms described by Dr. Gibbons. We discontinued the drug until he became rational and apparently normal, and then as it was still necessary to use the drug, we continued, but found that the slightest amount of the drug would throw the man out of his balance and he became delirious again. He trembled and would become very much excited. Whether this was due to some psychical disturbance or not, I do not know. After his nervous system was once overcome, we had to be very careful of the amount we used.

Dr. Gray: I have seen two cases of atropin poisoning in children and one in an adult. A favorite prescription in the Children's Clinic is a grain of atropin in one ounce of water, of which as high as 12 drops t. i. d. have been given to children of 10 or 12 years with no disagreeable effects, though continued over a long period of time. This prescription was given to a child of 20 months with instructions to give four drops at bedtime. Instead, the mother gave a teaspoonful, equal of one-eighth grain of atropin. Symptoms of poisoning appeared in about one hour, but were treated as acute indigestion by a neighbor, who gave emetic. No relief of symptoms resulted from this, and after eight hours

I was called to the child, which I found in delirium with convulsions, the tongue greatly swollen and dry, the child unable to swallow, the pupils widely but not extremely dilated, the pulse very rapid and the skin of the face and body a brilliant red. The temperature was not taken. I gave the child a hypodermic of one-eighth grain of morphin and the convulsions subsided in 15 minutes and the delirium practically disappeared. I then gave one-sixteenth grain of pylocarpin by hypodermic, which resulted in the appearance of slight moisture on the tongue.

After 15 minutes another one-sixteenth was given, and with this saliva appeared quite freely in the mouth and slight perspiration in the skin. The child was given a drink of water, after which it slept for eight hours and awoke in apparently normal condition.

Another child of two and a half years had had, sometime previously, a bad cough. Pills were left containing atropin 1-250 with instructions to give one, and if it controlled the cough to discontinue, but if it did not to give another every four hours. Some months afterward I was called and found the child in convulsions. It had long intervals of convulsions and was perfectly delirious, picking with the hands, face quite flushed. The mother thought she had fever. The body was somewhat flushed. Pulse rate very rapid, 160; respiration quite rapid, no nausea, skin dry, able to swallow. I gave this child 1-24 of morphin by mouth and left instructions to have 1-24 given every hour until the child slept. Next day the child was perfectly normal. I told the mother that I felt that the child had taken something of this kind and asked about the pills. It finally came out, that during the day the mother had been sweeping and cleaning the room and she had laid the pills in a little box on the bed. The child was playing about and the mother remembered afterward that she had heard the child say, "I will be all well now." She was not able to find the pills and the only conclusion to come to was that the child had found the pills and had taken them.

I am satisfied that there is a greater susceptibility to atropin poisoning in adults than in children. An adult can get this alarming condition with a belladonna plaster. The symptoms with the drug always seem to be about the same. The convulsions are not so common in the adult.

CYCLODIALYSIS FOR CHRONIC GLAUCOMA.*

By E. C. SEWALL, M.D., San Francisco.

There is no disease of the eyes which has received more careful study than chronic primary glaucoma, nor is there a disease which has presented more difficulty in the solving of its pathology, or in devising a cure. Hippocrates has mentioned it, and it has come down through the ages as a recognized entity until the discovery of the ophthalmoscope and more modern methods of pathology and physiology have to a certain extent made

*Read before the Eye, Ear, Nose and Throat Society.

its processes *seem*, at least, fairly clear. It is interesting that the hardness of the globe was recognized and sclerotomy performed to relieve it, before the ophthalmoscope permitted a view of the interior of the eye, and also that Von Graefe, while considering the disease a chronic iridochoroiditis, performed the epoch-making operation of iridectomy.

These two operative procedures had their supporters, but the former has been quite abandoned in favor of the iridectomy. The iridectomy done first, on, we might say, empirical grounds, in the light of modern methods has led indirectly to the operation, cyclodialysis.

In chronic glaucoma, the iris lies forward so that the angle of the anterior chamber is closed. This prevents the excretion of fluid, by mechanical interference. The iridectomy relieves this condition. Fuchs, however, observed that it did more than merely free the chamber corner. He claimed that there was a rupture of the ligamentum pectinatum, which allowed a communication between the anterior chamber and the supra-choroidal lymph space.

From these results of careful thought, the operation of cyclodialysis was evolved by Professor Dr. Heine in Breslau. He very cleverly conceived the idea of both freeing the chamber corner and establishing communication between the supra-choroidal space and anterior chamber without the removal of the iris. Briefly, he enters the supra-choroidal space near the cornea, through the sclera, and then, separating the parts, enters the anterior chamber. The technic of the operation, I will give in his own words:—

"Above or below, temporal or nasal from the corneo-scleral limbus, at a distance from this of five to ten mm, cut through the conjunctiva and episcleral tissue until the sclera is laid bare. Taking hold near the limbus with the forceps, the eyeball is steadied, and an incision made parallel to a tangent to the limbus passing through this point. The incision extends to the ciliary muscle, and is made with a straight or bent iridectomy lance.

"One takes the lance in the hand as a pen, and the perforation of the sclera can be felt. Make the opening in the sclera about two mm long. Now introduce into this wound a small spatula such as is used for replacing the corners of the iris after iridectomy, taking care to work with spatula always pressed outward against the sclera. When the instrument is pushed forward as far as the ligamentum pectinatum, some resistance is felt. This is overcome slowly and then the spatula is seen to appear in the anterior chamber. Excursions are now made to each side, so as to separate the iris widely from its basal attachment. The spatula is now slowly withdrawn and more or less of the aqueous can be allowed to pass out as desired. The conjunctival wound is sutured by a catgut suture and eye banded. If one has allowed no aqueous to escape, there will be no alteration in the tension immediately following the operation, but becomes apparent in three to four days. The operation is almost painless under

cocain and adrenalin and general narcosis is necessary only in children."

Prof. Heine brings up several questions that naturally arise. Does the communication produced heal immediately and leave simply an irido-dialysis which acts merely by freeing the chamber corner? Is not the supra-choroidal space entirely obliterated in a case of chronic glaucoma? These questions a greater amount of experience and material alone will answer.

He reports favorably on the operation after operating on fifty cases, and he gives account of many cases where cyclodialysis has relieved conditions where iridectomy failed. Most of the iridectomies were performed by Prof. Uthoff in Heidelberg, which insures their careful performance.

It is perhaps too soon to form an adequate idea of the results to be obtained from this operation, but while visiting Axenfeld's clinic, I saw the operation performed several times, and also a number of times in Fuch's clinic. This shows the interest aroused in the best clinics in Europe, and we can soon hope for enough statistical material to place a value on the method. It certainly presents some points of striking advantage; principal among these, is the fact that the pupil is not interfered with, and consequently disturbance of vision caused. There is also no danger of injury to the lens.

The case I show this evening is one of long-standing glaucoma in both eyes. A native of Germany, 53 years of age, collector by trade, presented himself May 27, 1906, at the clinic of Cooper Medical College, under the service of Dr. Barkan, complaining of increasing loss of vision. Noticed trouble in left eye twelve years previous, right, four years ago. Vision in right eye, fingers in 5 feet with correction —2.5, 20-40; in the left eye, hand movements, no improvement possible. The disc was cupped and the tension increased; the field in the right eye was much contracted, impossible to take the left field. Cornea clear, sensitive, anterior chamber shallowed. Was treated with pilocarpin and returned to the clinic from time to time. Vision was constantly decreasing in the right eye.

Three months ago I operated upon both eyes by the method of Prof. Heine. Vision in the right eye then was, fingers in 4 feet; in the left, hand movements. I employed a general anesthetic in order to give me greater control over the eyes, not knowing what the difficulties might be. The incision through the sclera was difficult to make, because of lack of experience and fear of injury to structures underlying. After a little patience, however, the sclera was perforated and the spatula introduced into the wound and pushed without trouble into the anterior chamber. I then moved it upward and downward in an endeavor to detach the iris widely. The operation on the second eye was much easier than the first, and would see no occasion again of employing general anesthesia. Patient was kept in bed and quiet for some days. There was absolutely no inflammatory reaction. Pilocarpin was instilled regularly and has been used since the operation.

It is difficult to judge what the results of these operations have been. To all appearances, the eyes have never been operated upon. The vision remains about the same as before the operation. No detachment of the iris can be seen, though this was freed quite widely. The tension, however, is certainly better, though the patient is using pilocarpin regu-

larly. However, we may say there was not the immediate decrease in vision that sometimes follows a large iridectomy-coloboma, and the results hoped for may be achieved, *i. e.*, the retention of what vision he has. In case of further failure of vision, nothing prevents a reperformance of the operation.

PROPRIETARY PREPARATIONS APPROVED BY COUNCIL ON PHARMACY AND CHEMISTRY.

Continued from Feb., 1907.

ARGONIN.

A soluble casein compound containing 4.28 per cent. of silver.

Actions and Uses.—Its actions and uses are similar to those of silver nitrate, but it is claimed to have greater power of permeating living colloid membranes than other silver albumoses. It is applied as an injection in 0.1 to 0.2 per cent. solution; in ophthalmic practice a 10 to 20 per cent. solution in glycerin may be used. **Dosage.**—It is generally used in 0.5 per cent. solution, but even 20 per cent. solutions have been injected without producing irritant symptoms. Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ARGYROL.

A compound of a derived proteid and silver oxide, containing from 20 to 25 per cent. of silver.

Actions and Uses.—Solutions of argyrol (20 to 50 per cent.) are said to be non-irritating to mucous membranes. Taken internally it is said to be non-toxic. It is claimed to be an antiseptic. It is recommended in urethritis and cystitis, in conjunctivitis and in affections of the nose, throat and ear. **Dosage.**—It is employed in from 10 to 25 per cent. and even stronger solutions. Manufactured by Barnes & Hille, Philadelphia.

ARISTOCHIN.

Aristochin.— $\text{CO}(\text{C}_{20}\text{H}_{23}\text{N}_2\text{O}_2)_2=\text{C}_{41}\text{H}_{46}\text{N}_4\text{O}_5$, the neutral carbonic ester of quinine.

Actions and Uses.—The same as those of quinine, but, since it is only slowly acted on by acids, it is said not to produce disturbance of the stomach and to be notably free from tendency to production of cinchonism. **Dosage.**—The same as that of quinine, in powder, mixed with milk sugar, dry on the tongue or suspended in liquids. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

ARISTOL.

A name applied to Thymolis Iodidum, U. S. P. Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

ASPIRIN.

Aspirin $\text{C}_6\text{H}_4\text{O}(\text{CH}_3\text{CO})\cdot\text{COOH}$, $1:2=\text{C}_9\text{H}_8\text{O}_4$, the acetyl derivative of salicylic acid.

Actions and Uses.—It acts like salicylic acid, over which it possesses the advantage of producing less of the undesired local and systemic side effects, on account of the slow liberation of the salicylic acid. It passes the stomach unchanged, the decomposition beginning in the intestine. **Dosage.**—0.3 to 1 Gm. (5 to 15 grains) in capsules or wafers, or dissolved in sweetened water or dry on the tongue, followed by a swallow of water. The powder should be dispensed in waxed paper. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

BENZOSOL.

Benzosol, $\text{C}_6\text{H}_4(\text{OCH}_3)(\text{C}_6\text{H}_5\text{COO})=\text{C}_{14}\text{H}_{12}\text{O}_3$, a crystalline compound of guaiacol in which the hydrogen of the hydroxyl is replaced by benzoyl.

Actions and Uses.—Benzosol is decomposed slowly in the intestinal tract into guaiacol and benzoic acid which exert their proper actions. The liberated constituents are absorbed and excreted in the urine. It is not irritating. Its uses are analogous to those of creosote and benzoic acid. It is recommended in incipient pulmonary tuberculosis, as an intestinal antiseptic in fermentation, diarrhea, typhoid fever, diabetes mellitus and as a urinary disinfectant in cystitis, etc. **Dosage.**—0.2 to 0.6 Gm. (3 to 10 grains), in powder, capsule, pill, or suspended in liquids or as an emulsion. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

BETA-EUCAINE HYDROCHLORIDE.

Beta-eucaine hydrochloride, $\text{C}_5\text{H}_7\text{N}(\text{CH}_3)_3(\text{C}_6\text{H}_5\text{COO})\cdot\text{HCl}$, the hydrochloride of 2,6,6-trimethyl-4-benzoyl-hydroxypiperidine. **Actions and Uses.**—Beta-eucaine hydrochloride is a local anesthetic like cocaine, but weaker and devoid of the stimulating properties of the latter. It does not dilate the pupil, nor does it contract the blood vessels as does cocaine. It has the advantage of stability even on prolonged boiling. It may be used in all cases in which cocaine is indicated as a local anesthetic, especially in ophthalmology. **Dosage.**—It may be applied in a 2 to 3 per cent. solution to the eye, 5 to 10 per cent. for nose and throat, and 5 to 10 per cent. for ointment for hemorrhoids. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering and Glatz, New York).

BETA-NAPHTHOL BENZOATE.

Beta-naphthol benzoate, $\text{C}_6\text{H}_5\text{COO}\cdot\text{C}_{10}\text{H}_7=\text{C}_{17}\text{H}_{12}\text{O}_2$, the benzoic ester of B-naphthol.

Actions and Uses.—Beta-naphthol benzoate is split up into its constituents on reaching the intestinal tract and acts as an antiseptic. It is said to be diuretic. It is used internally as an intestinal antiseptic in diarrhea and typhoid fever. Externally it has been recommended as a parasiticide in the form of 3 to 10 per cent. ointment, and has been used in psoriasis, eczema, scabies, etc. **Dosage.**—0.2 to 0.5 Gm. (3 to 8 grains); maximum dose, single, 1 Gm. (15 grains), daily 4 Gm. (60 grains). Manufactured by Fabrik von Heyden, Radebeul near Dresden (Merck & Co., New York).

BETOL.

Betol, $\text{C}_6\text{H}_4\cdot\text{OH}\cdot\text{COO}(\text{C}_{10}\text{H}_7)=\text{C}_{17}\text{H}_{12}\text{O}_3$, the salicylic ester of B-naphthol.

Actions and Uses.—Betol is not affected in the stomach, but is split up in its original components when it reaches the intestinal tract by the pancreatic juice and intestinal secretions. It is believed to act as an intestinal antiseptic and, being excreted in the urine, to act in a similar way in the bladder. It has the anti-rheumatic properties of salicylic acid. It is recommended for intestinal fermentations, catarrh of the bladder, particularly in gonorrheal cystitis, for rheumatism, etc. **Dosage.**—0.3 to 0.5 Gm. (4 to 8 grains) in cachets, milk or emulsion. Manufactured by the Heyden Chemical Works, New York.

BISMAL.

Bismal, $4(\text{C}_{15}\text{H}_{12}\text{O}_{10})\cdot 3\text{Bi}(\text{OH})_3=\text{Bi}_3\text{C}_{60}\text{H}_{48}\text{O}_{40}$, a compound of bismuth hydroxide and methylendigallic acid.

Actions and Uses.—Bismal is an astringent and is recommended for the treatment of chronic diarrhea. **Dosage.**—0.12 to 0.3 Gm. (2 to 5 grains) in cachets or powder. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

BOROCHLORETONE.

A mixture of 1 part chloretone with 3 parts boric acid.

Actions and Uses.—An antiseptic and anesthetic, used externally as a surgical dressing powder. Prepared by Parke, Davis & Co., Detroit, Mich.

BROMETONE.

Brometone, 1,1,1-tribrom-2-methyl-propan-2-ol, $CBr_3.C(OH)(CH_3).CH_2=CH_2.OBr_3$, produced by the reaction of acetone on bromoform.

Actions and Uses.—Brometone is claimed to have the sedative action of the bromides without the disadvantage of producing bromism. In doses of 0.3 Gm. (5 grains) four or five times a day, in adults, it is claimed to cause no unpleasant results and to produce no disturbance of the digestive organs, and to have no appreciable effect on the secretions. Its action is prompt and its effect is manifest for several hours. In doses exceeding 1.6 Gm. (25 grains) daily it may produce dizziness, vertigo, anorexia, and mental hebetude, all of which symptoms disappear on discontinuance of its use. Therapeutically it has been recommended in mild conditions of excitation and insomnia, in so-called narcotic abstinence, in hysteria and in nervous affections generally. It relieves some forms of cough and is said to produce amelioration in about 60 per cent. of cases of epilepsy. It has been used to relieve dizziness due to labyrinthine disturbances. **Dosage.**—The dose is 0.3 Gm. (5 grains) to be repeated two or three times during twenty-four hours. Manufactured by Parke, Davis & Co., Detroit, Mich.

BROMIPIN.

A bromine addition product of sesame oil, containing 10 per cent. of bromine in organic combination.

Actions and Uses.—Bromipin acts like the bromides, but as it yields its bromine more slowly it is thought to have less tendency to produce brominism. The combination is not broken up in the stomach, but a portion of the bromine is split off as soon as the oil enters the intestine. The oil with the remaining bromine is easily absorbed, and, similarly to other fats, is largely deposited in the tissues, where it is slowly split up. It is said to be more lasting in its action than the bromides. **Dosage.**—4 Cc. (1 fluidram), increased in cases of epilepsy to from 8 to 32 Cc. (2 to 8 fluidrams); in emulsion with peppermint water and syrup, or pure, flavored with oil of peppermint. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York.)

BROMIPIN—33 1-3 PER CENT.

A 33 1-3 per cent. brominized sesame oil. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York.)

BUTYL-CHLORAL HYDRATE.

Actions and Uses.—Its action is similar to that of chloral, except that it is said to be less depressing and more analgetic. It has been especially recommended for facial neuralgia. **Dosage.**—0.3 to 1.5 Gm. (5 to 20 grains).

CALCIUM ICHTHYOL.

A derivative of ichthyol in which calcium is substituted for ammonium. Manufactured by the Ichthyol Co., Hamburg. (Merck & Co., New York.)

CALOMELOL.

A soluble colloidal form of calomel, containing albuminoids.

Actions and Uses.—Its action is the same as that of calomel, but it is claimed to be superior because of its solubility in water, acting more rapidly and efficiently. Calomelol is claimed to be non-irritant and particularly non-toxic. The indications for its use are the same as for calomel. **Dosage.**—Internally the same as calomel. Externally it is used as a dusting powder, mixed with an equal quantity of starch and zinc oxide, or in the form of calomelol

ointment. It should be guarded from the light. Manufactured by the Heyden Chemical Works, New York.

CALOMELOL OINTMENT.

Actions and Uses.—It is a substitute for mercurial ointment, over which it has the advantage of cleanliness, and it is claimed to be distinctly superior as an inunction in syphilis, etc. **Dosage.**—6 Gm. (90 grains) daily for inunction in syphilis. Manufactured by the Heyden Chemical Works, New York.

CASCARA EVACUANT.

A preparation said to contain a bitterless glucoside, obtained from the bark of *Rhamnus purshiana*, with aromatics.

Actions and Uses.—It is claimed that this preparation possesses the laxative properties of cascara sagrada without the bitterness which characterizes the ordinary extract. It is recommended for the treatment of chronic constipation, for which cascara sagrada is one of the best medicinal agents. **Dosage.**—As a laxative, 0.6 to 1 Cc. (10 to 15 minims) three times a day; as a purgative, 1.3 to 2 Cc. (20 to 30 minims) morning and evening. 4 Cc. (1 fluidram) may be given in obstinate cases. Prepared by Parke, Davis & Co., Detroit, Mich.

CASCARA TONIC LAXATIVE GLOBULES.

Each globule is said to contain 0.2 Gm. (3 grains) of the bitter glucosides of *Rhamnus purshiana* suspended in a bland fixed oil, to which aromatics have been added.

Actions and Uses.—The manufacturers claim that it combines the laxative action of cascara with tonic properties of the bitter principle with the advantage of concealment of the disagreeable taste. **Dosage.**—One or two globules to be taken before retiring. Prepared by Parke, Davis & Co., Detroit, Mich.

(To be continued.)

COUNTY SOCIETIES.**RIVERSIDE COUNTY.**

Our last medical meeting was held at the home of our President, Dr. Sam'l Outwater, Monday evening, March 11th. Dr. John C. King of Banning, president of the State Board of Medical Examiners, read a paper on "Medical Tuberculosis in Children." The doctor's paper was of especial interest to us, because of efforts we are making to teach the public the proper way to handle tubercular cases, and Dr. King's success at Banning can be used as an illustration of the value of fresh air, sunshine and proper diet. The next meeting will be held the second Monday in April. G. E. TUCKER, Secretary.

SANTA CLARA COUNTY.

This society held a special meeting at Palo Alto on April 4th and a banner meeting was had. Our Palo Alto confereres arranged a most interesting program, the papers being devoted to questions of public health. As it was an open meeting, the auditorium of the Congregational Church was comfortably filled, and the interest shown by those present simply goes to prove that open meetings are appreciated by the general public. Dr. Snow had lantern slides showing the sanitary as well as unsanitary conditions of dairies, vegetable gardens and the water supply of the peninsula. Dr. Mosher gave a paper on "The Citizen and His Importance as a Factor in Spreading Disease." Prof. Pierce spoke on "The Public Health Administration at Palo Alto," and Dr. Wm. Simpson's paper dealt with "The Public Health Administration of Santa Clara County." We believe that open meetings dealing with subjects relative to the source of our food and water supply will give us the support of the general public in demanding that sanitary conditions shall prevail

about all premises where produce is raised. It is the unanimous opinion of our members that the Palo Alto meeting be reproduced in San Jose, and that the public be invited to attend.

At our regular meeting, held in San Jose on April 10th, we enjoyed a very able address by the Rev. Dr. Powell of Santa Clara on "The Religious Opportunities of the Physician." Every physician present entered into the discussion that followed Dr. Powell's remarks, and we hope that Dr. Powell will again address this Society at some future time. Our guests of the evening were Rev. Dr. Powell of Santa Clara, Dr. L. R. Marvin of Muskegon, Mich., and Dr. Thomas of San Francisco.

K. C. PARK, Secretary.

SANTA CLARA COUNTY.

The Santa Clara County Medical Society held its first special meeting in Santa Clara on March 6th, the meeting being held in the Santa Clara Woman's Club building. Many of the San Jose physicians were present, and as the Santa Clara members acted as the hosts we had a good time. There was no regular paper presented, but the discussion of several interesting topics made the meeting an instructive one. The ladies of the Santa Clara Woman's Club generously donated the Society the use of their building, and after the meeting several of the ladies served our members with a delicious repast. The evening passed altogether too quickly, and it was the last car that took the San Jose members homeward. Several of the Santa Clara dentists were guests of the evening, and the hope was expressed by them that they might often be allowed to meet with our Society.

This Society now holds bi-monthly meetings, every other one to be held at some point outside of San Jose. This arrangement, we hope, will keep us in closer touch with members living away from San Jose, as well as offering an outing for our members.

The idea of inviting leading citizens of the different professions to meet with us and discuss subjects of mutual interest is growing every day, and ere long we hope it will be necessary to secure larger quarters for our meetings.

K. C. PARK, Secretary.

SOLANO COUNTY.

At the meeting of the Solano County Medical Society of March 12th, Dr. B. J. Klotz, a member who something like a year before had, in connection with all the other members of the Society, signed an agreement not to do contract or lodge work, was expelled from the Society for having taken up such work.

BOARD OF EXAMINERS.

The Governor has appointed the following as members of the State Board of Medical Examiners: Regulars, Drs. Cochran, Reinhardt, Mattison, James and Pope; Eclectics, Dougall and Mason; Homeopaths, Barnard and Tisdale; Osteopaths, Tasker and Sisson.

Found: A surgeon's black hand valise, containing surgical instruments; was recovered recently from the Sacramento river at Clarksburg.

For particulars address

DR. E. M. WILDER, Secretary,
Sacramento Co. Medical Society.

PUBLICATIONS.

A Manual of Obstetrics. By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women in the Medical Department of the George Washington University, Washington, D. C., and in the Medical Department of the University of Vermont, etc. Tenth edition, enlarged and thoroughly revised. 12mo., 688 pages, with 30 illustrations and three colored plates. Cloth, \$2.75, net. Lea Brothers & Co., Philadelphia and New York, 1907.

Operative Gynecology. By Howard A. Kelly. New York and London. D. Appleton & Co., 1906.

Nine years have elapsed since the first edition of this valuable work by the brilliant operator and teacher of Johns Hopkins University. The second edition comprises two volumes, eleven plates and 703 original drawings, for the most part by that inimitable illustrator, Max Brodel. Several chapters have been rewritten and brought up to date; the affections of bladder and kidney are treated with special thoroughness; the 50 pages devoted to the methods of examination contain much of practical value. Many chapters have been added by the author or by his well-known assistants. Particularly noticeable is the section on abdominal extirpation of the cancerous uterus by J. A. Sampson, whose painstaking and fruitful labors in this special field have received widespread recognition. An interesting section on gynecological diseases in children is contributed by Elizabeth Hurdon. The separate chapter devoted to anesthesia contains valuable data based on a vast hospital experience.

To those who have visited the Johns Hopkins Hospital, the perusal of "Operative Gynecology" will vividly recall many procedures which originated and have proven eminently successful in that model institution. It has been said apropos of Howard Kelly's recent publications that his lucid and accurate style greatly facilitated the task of the translator, but that the generosity and richness of the illustrator have discourage many a prospective author.

Essentials of Medical Electricity. By Edward Reginald Morton, M. D., C. M., Trinity College, Toronto; D. P. H., F. R. C. S., Edin.; Medical Officer in Charge of the Electrical Department, London Hospital; Honorary Secretary of the Electrotherapeutic Society, etc. Eleven plates and seventy illustrations. London, Henry Kimpton; Chicago, W. T. Keener & Co., 1905.

This manual contains an excellent resume of the theoretical and practical aspects of electrotherapeutics. The plan of the book is good, and the descriptive matter clear. The first portion is largely given to a discussion of physics, while the remaining part is devoted to the physiological manifestations of electrical stimulation, the diagnostic uses of electricity and the practical application of electrotherapy. We recommend this compend as an introduction to the study of the subject.

A. J. L.

REPORT OF COMMITTEE ON INSURANCE FEES.

To the Medical Profession of the United States: At the Boston session of the American Medical Association the undersigned were appointed as a committee to investigate and to report on the insurance-examination question. We were instructed to confer with the insurance companies which had reduced the medical examination fee from \$5 to \$3, and, if possible, to induce them to return to the original fee. Nothing could be done during the summer, owing to

the fact that representatives of the companies, as well as some members of the committee, were absent on their vacations, either in Europe or at other distant points.

At the earliest opportunity after the vacation the matter was taken up with representatives of the Equitable, the Mutual and the New York life insurance companies. The last company, it will be remembered, had reduced its fees eleven years ago, and its officers declined at first to meet us in our official capacity. When this technicality was brushed aside it was found that none of these companies would restore the fee unless all should agree to do so. The New York Life Insurance Company apparently blocked the concerted action, essential to a restoration of the fee to \$5, and a compromise proposition, made by us, was also rejected. Therefore, our efforts to influence the companies to restore the fee to a just and proper one have failed.

We were also instructed to make known to the profession, through The Journal of the American Medical Association or otherwise, the results of the negotiations with the companies, and to advise what policy should be pursued in the event of failure to have the fee restored. In doing this the following facts should be stated:

First.—The reduction of fees was made by the companies without consultation with their examiners, either collectively or individually.

Second.—The companies insist that they be left to deal with individual physicians and not with the profession as a whole.

Third.—On the other hand, they themselves have practically agreed to stand together in maintaining the reduced, insufficient and, we believe, unjust fee.

Fourth.—The companies claim that physicians' fees were reduced on account of the legislation in New York. The facts do not warrant this statement. The fee was reduced by the New York Life eleven years before the present law in New York was thought of, and by the others before it was proposed. The recent action of the Manhattan, a New York company, restoring the fee to \$5, only emphasizes the correctness of our position on this point.

Fifth.—We find that the so-called economic measures instituted by these insurance companies have apparently been chiefly in the medical department, and that the medical department was almost the only one which was not smirched by the past history of extravagance practiced by the officers of the companies.

Sixth.—We believe that the companies can and should continue to pay a minimum fee of \$5 for medical examinations, which seems to us to be a reasonable and just remuneration.

These are the facts, and we refer the question to the county and state societies for such action as they may deem wise and proper. We urge, however, that the will of the majority be not made a test of membership, in accordance with the modern idea in the profession that kindness and moral suasion should be substituted for the old methods of ostracism and exclusion in all of our work.

J. H. MUSSER, Chairman,
JOHN A. WYETH,
WM. J. MAYO,
FRANK BILLINGS,
J. N. McCORMACK.

A Partial List of Companies Paying the Flat Fee of \$5.00.

North Western Life Insurance Co., Milwaukee.
Mutual Benefit Life Insurance Co., Newark, N. J.
Connecticut Mutual Life Insurance Co., Hartford.
The Manhattan Life Insurance Co., New York.
Aetna Life Insurance Company, Hartford.
The Providence Life and Trust Company, Philadelphia.

Commonwealth Life Insurance Co., Louisville, Ky.
Boston Mutual Life Insurance Company, Boston.
Citizens Life Insurance Company, Louisville, Ky.
New England Mutual Life Insurance Company, Boston.
Massachusetts Mutual Life Co., Springfield, Mass.
Nat. Life Ins. Co., Montpelier, Vt.
Pacific Mutual Life Insurance Company of California, Los Angeles.

NEUROGRAPHS.

A Series of Neurological Studies, Cases and Notes.

Editor: William Browning, Ph. B., M. D. Vol. I. No. 1.

From the announcement we learn that "the reason for starting this publication is a need for some convenient place to put on record work done by men more or less associated with the editor, and thus to utilize opportunities, material and effort much of which would otherwise be lost." We must leave it to the editors of the previous current neurological publications to refute the charge of inconvenience implied in the reason for calling neurography into existence. As for the danger of that being otherwise lost which Dr. Browning and his associates would not willingly let die, we fail to see how the risk would be greater if it were committed to the pages of well-established journals supplied by contributors far and near than when it appears independently as the production of a group. And work of such quality as is found in this first number would have easy access to good periodicals. However, such misgivings about the advisability or necessity of a new venture are generally expressed by the conservative and not infrequently believed by the issue. This kind of enterprise is by no means without successful precedent. The contents of the initial number are:

1. A Case of Brain Abscess, Localization, Operation, Recovery, by J. E. Sheppard. There is nothing specially novel, but the reports of such successes serve at least to encourage les autres.

2. Cephalic Tetanus in America, by F. C. Eastman. The author reproduces the description of a case by the famous Charles Bell in 1830 and Rose's original case, reviews critically the American literature and adds three new cases.

3. A case of Myasthenia Gravis Pseudoparalytica with Adenoma of the Pituitary Body, by Frederick Tilney. An interesting paper with ten illustrations, five of them being good photomicrographs by Dr. Archibald Murray, who was years ago an esteemed member of the staff of the San Francisco Polyclinic.

4. Lane Remarks on the Facial Nucleus, by Edwin G. Zabriskie. The patients who furnished the material had peripheral facial paralysis from disease of the ear, and their death from meningitis enabled the author to examine the facial nucleus by the Nissl method.

5. The first paper of Clinical Studies on the Pressure Effects of Lane Cordio-Vascular Agents, by Tilney and Brockway.

6. A Family Form of Progressive Muscular Atrophy (Myelogenic Type), beginning late in life, by Wm. Browning.

7. Note on the Administration of Arsenic. We are told that Fowler's Solution is untrustworthy and that arsenic should be prescribed in the solid form.

The form of Neurography is convenient for the pocket. Future numbers "will be issued only as material dictates." The net price for the current volume is \$2.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor
PUBLICATION COMMITTEE.

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Official Register, - - -	

Telephone, West 5975.

IMPORTANT NOTICE

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

JUNE, 1907.

No. 6

EDITORIAL NOTES.

Something over a year ago an effort was originated to collect a fund for the purpose of erecting a monument to the memory of

DOCTOR

DAVIS.

Dr. N. S. Davis, the founder of the American Medical Association.

At the last meeting of the Association, at Boston, last year, the matter was brought before the Association and a committee appointed to secure funds. In turn, this was brought before the House of Delegates of the State Society, at the Del Monte meeting, and it was recommended that each member of the American Medical Association in this State contribute the small sum of \$1.00 to this fund. The Secretary was instructed to call attention to the request in the JOURNAL, and he now does so with great pleasure. If every member of the Association will send in one dollar, California will be able to make quite a respectable contribution to the general fund. Please do not delay, but *send your dollar to the Secretary, 2210 Jackson street, San Francisco.* If you are not a member of the American Medical Association, but wish to contribute, you may do so; but if you are not a member *you ought to be*, and the best thing for you to do is to write to the Secretary for an application blank.

The present crop of attacks upon the CALIFORNIA STATE JOURNAL OF MEDICINE and its editor seems to be rather larger than usual.

NUMEROUS
ATTACKS.

We wonder why? Also, we wonder why some of the medical (?) journals which publish

these attacks go to the trouble of sending copies to all physicians in California. From the number of remarks made and comments sent to this office, apparently the physicians in this state have been liberally supplied with "sample copies." For instance, take the journal edited by the gentleman who believes that "there are certain eternal, fundamental principles of right and wrong which should govern everybody"—but that these principles do not apply to advertising. It needs a little thought to see just why this individual, for instance, should go out of his way and to some expense to attack your journal. The fraudulent nature of many, many nostrums, and the participation in the fraud by advertising them in medical (?) journals, would soon be forgotten if it were not constantly aired; that is why your Publication Committee believes in keeping up the airing process. But why should the gentleman who believes that principles of right and wrong do not apply to advertising object? If you take a good look at the advertising pages of the medical (?) journal in which he states his views on right and wrong, you will see. For instance, he derives some little revenue for advertising "manola." What is "manola"? The good Lord only knows! But if we may believe what it says of itself, it is a preparation made by dissolving the philosopher's stone in the spring of life. Listen:

"New strength can be given to the failing heart, tissue changes arrested, and senile decay indefinitely postponed by the prescription of manola."

Is not that too lovely for words! Do you believe it? Why need any one fear death—when there is yet life in a bottle of manola? Why have a pharmacopeia, or a materia medica at all—when there remains to us—manola? Why use any other remedies—when we are assured that senile decay may be indefinitely postponed—by manola? When a man can so far forget that he is a man and a physician, and that "there are certain eternal, fundamental principles of right and wrong" as to accept pay for advertising such slush as this, what is one to think? The voice of the reading pages give one the "unctuous words," but the hands that make up the advertising pages are indeed "unclean hands."

Some people are cheap; others must be awfully cheap. It would seem that some physicians may be bribed by a bottle of—manola, free. At any rate, the “company,” which, of course, is located at St. Louis, sends out a sheet of three cards, one of which is a notice to the “company” that a half-dozen bottles of manola have been ordered through a certain druggist and requesting that a free bottle be sent for the physician with the order. The second is a card to the druggist, asking him to order the half-dozen manola. The third is a card, prepared with true thoughtfulness, for the druggist to send the “company,” ordering the half-dozen manola. One is only surprised that the “company” is not sufficiently thoughtful to provide stamps. The stuff is sold to the druggist for \$8.00 per dozen, or sixty-six and two-third cents per bottle; and it is for this the physician is asked to sell himself! It seems past belief that any man permitted to practice medicine would lend himself to such a cheap barter and sale. Yet if there are not some who will do so, how can it pay the “company” to get out these cards and send them all over the country? It is enough to make the angels weep to think of ignorance that will believe such lies as are advertised in medical (?) journals, and be a party to such a cheap imposition as promulgated by this “company.” He must certainly believe that “principles of right and wrong” have nothing to do with advertising who will sell out to such a nostrum as this and advertise its lies!

The Pure Food and Drugs Act is exposing a lot of fakes in various directions. Fiction is interesting as fiction, but when it deals with the art of describing what is supposed to be contained in some food or drug it is neither interesting nor amusing; it is merely dastardly, criminal lying. A writer in the *Midland Druggist*, for March, sets forth some facts relating to mineral waters which have come out through the operations of the new law, and which may be assumed to be only a hint of similar conditions in other food and drug industries. Buffalo Lithia water, freely advertised to physicians and the laity, said to contain 2.25 grains of lithium to the gallon, when analyzed by the Government reveals the presence of 0.018 grains lithium bicarbonate per gallon. Londonderry Lithia water, advertised to contain 7.29 grains per gallon, is found to contain an amount too small to estimate—merely a spectroscopic trace! “Hunyadi-

Janos, advertised as a natural laxative water, is the manipulated mixture of more than one hundred springs.” Doubtless this country will follow the lead of Germany in the case of Apollonaris; we learn that Germany has compelled “the Apollonaris Company to desist advertising and labeling their water as ‘natural and absolutely pure’ (as in truth it is neither natural nor are their storage cisterns sanitary).” Many widely advertised “spring waters” are the rankest kind of sophisticated fakes and will go out of business entirely. The abolishment of misbranding, under the new law, will be one of the most valuable things achieved and the consumer will have some chance of getting what he really wants.

You all recall the remarkable series of exposures of the Great American Fraud, published in *Collier's Weekly* in 1905 and 1906. The task of preparing this matter was very great, and the results thus far accomplished are by no means small. But the work should not stop now. The purveyors of dope to the public live and hope that “it will all blow over”; they know that memory is short and trust this will all be forgotten before long. In order to help prevent this forgetfulness, the American Medical Association has assembled the various articles from *Collier's* in the shape of a paper-bound booklet of 146 pages, which it offers for sale at cost. Every county society in the United States should get a supply of these booklets for its members to distribute to their friends among the laity. It is a liberal education in the inside workings of one of the most dastardly criminal enterprises ever perpetrated upon the public. Every citizen should be posted upon the “red clause” and the manner in which it has—or had—absolutely muzzled the glorious “free” press of this country. Similar conditions have practically muzzled the medical press, and physicians themselves should study this matter most carefully. It is not a little thing; it is no trivial matter; and Mr. Bok has well called attention to the “unctuous words and unclean hands” of many members of our profession. Single copies will be supplied for \$2.00, express or postage extra. Let every one of our component societies send to the American Medical Association, 103 Dearborn Avenue, Chicago, for at least fifty copies of this pamphlet, and then let every member see that a copy reaches the hands of every minister, lawyer and prominent citizen in his county. There

is no county society that can not afford to help to this extent at least. It is just one of our duties; let us do it.

Many things emanate from Chicago. One of them happens to be a medical journal published by a manufacturing house and mainly devoted to urging the use of a particular form of medication. In the May number of this particular journal (*Clinical Medicine*, one time *Abbott's Alkoloidal Clinic*) the editor devotes considerable space to the CALIFORNIA STATE JOURNAL OF MEDICINE, and, incidentally, referring to our pages, says that "there is no dearth of thought stimulus in them." We are certainly profoundly grateful—and somewhat amused. "Thought stimulus" is what both manufacturers and medical (?) journals desire to avoid, for if the physician readers got to thinking about things—as they are doing now—the result would not be exactly what the manufacturers want, and the medical (?) journals would be deprived of some exceedingly dirty revenue. Indeed, it is the question of revenue derived from advertising which seems to be most prominently in the mind of the editor in question, for he constantly refers to it and the attitude of the STATE JOURNAL on that question. One of his utterances is truly the most startling thing that has thus far appeared in print:

"There are certain eternal, fundamental principles of right and wrong, however, which should govern everybody; but advertising is not based upon such fundamental principles."

Now, just stop and think about that; let it roll about in your head and come in contact with your gray matter. Advertising, according to this editorial utterance, has nothing to do with right and wrong! Our editorial contemporary admits with a wonderful charity and honesty that "there are certain fundamental principles of right and wrong" which should guide us in everything—except advertising. Why not be guided by "fundamental principles of right and wrong," even in advertising? Can it be that the editorial conscience is active in every direction—except advertising? Can there be a mundane and lowly reason for this peculiar editorial belief that right and wrong, as fundamental principles, do not apply to advertising? Possibly this is so, for when we come to scan the advertising pages of our wonderful contemporary we find a number of exceedingly strange things presented to the attention of the reader—and paid for by the

advertiser, we presume. We find that this medical (?) journal aids the daily press in assisting the manufacturers to sell sundry articles; and one of these is mentioned in the song that has been going the rounds: "What's I goin' to do? What's I goin' to say? I done tole yu' 'bout dat whirlin' spray!" As further argument to guide the editorial conscience in believing that right and wrong have nothing to do with advertising, we find (in addition to that of the "whirling spray") the—presumably paid for—advertisements of numerous fakes, frauds and nostrums. Now, if these concerns were paying you, as an editor and proprietor of a medical (?) publication many hundreds of dollars a year to help them fake the medical profession, what would *you* think about the advertising question? Would *you* believe that "there are certain eternal, fundamental principles of right and wrong, however, which should govern everybody; but advertising is not based upon such fundamental principles"?

It is refreshing to find a trade journal with sufficient common honesty to believe that "the fundamental principles which govern right and wrong" should not be forgotten, and to tell the truth about things as it

sees them. The *Canadian Pharmaceutical Journal*, in a recent issue, referred to the unmasking of "antikamnia," "phenalgine," "ammonol," etc., by the Pure Food and Drugs Act. It will be recalled that "phenalgine" was one of the acetanilide preparation shown up by the Council on Pharmacy and Chemistry, and that the manufacturers scared off most of the medical journals in the country from publishing the report, by threatening a libel suit. (By the way, this threatened libel suit business is getting to be very tiresome; at first it was amusing, but now it is merely wearisome.) Acetanilide being one of the component parts of the preparations mentioned, and it being one of the things which the law says the label shall tell about, we find that the "antikamnia" label now states that the preparation contains 350 grains of phenacetin to the ounce. "Ammonol," another one of those wonderful "new and improved chemicals," is found to contain 240 grains of phenacetin, while "phenalgine" is branded as containing 50 per cent acetanilide. These facts are respectfully referred to those distinguished gentlemen who, in spite of all that has been said, continue or continued until a short time ago, to use some of these outrageous fakes. Truly,

ANTIKAMNIA
THE FAKE.

there do seem to be a considerable number of people in the world who like to be lied to; it is astonishing, but apparently true.

REPORT OF THE BOARD OF MEDICAL EXAMINERS.*

By DUDLEY TAIT, San Francisco.

The policy pursued by the Board of Examiners during the past two years has not deviated from that outlined in Riverside. The strictest adherence to the law has characterized every decision, every move, every act. "Better no law at all than one which is not enforced," has been our motto. You may scan our records, peruse our archives, and you will find none of the namby-pamby methods so prevalent in many official bodies. Two subjects in particular have occupied the attention of the Board and called for special study: First, the preliminary educational requirements of matriculants to the medical schools of this State; second, the framing of a new medical law.

A year ago the Association of American Medical Colleges, at the urgent request of the Credential Committee of the California Board, placed the control of the matriculation requirements exclusively in the hands of the State Boards, thus killing a prevailing mercenary traffic in entrance certificates, so profitably and so complaisantly arranged by deputy State superintendents and two medical schools. To-day we wish to report to you the results of the enforcement of the new regulation in the matter of matriculation requirements. The 1905-6 session of one of the colleges just referred to opened with forty-two Freshman students, the majority of whom presented certificates from a Deputy State Superintendent of Public Instruction. The following year, when the Board appointed an examiner to pass upon the credentials of matriculants, the requirements being the same as the year previous, this same school has seven students in the Freshman class, and four of these are not legally entitled to remain there, inasmuch as they have not met the proper entrance requirements. Therefore, we note a reduction of 1400% in the matriculation record of this college. In the second school the 1905-6 session opened with ten Freshmen; the following year we fail to find a single Freshman. The enforcement of the Association standard has closed the doors of this college.

There is no more radical method of exterminating the purely mercenary medical college than by exacting of all matriculants a high standard of preliminary education. The California Board extends its investigation of preliminary requirements to every applicant for a certificate to practice medicine. We have already notified several large Eastern colleges of this fact.

A few words now in regard to the new medical law. Those who framed that excellent law which regulated the practice of medicine in this State from 1876 to 1901 knew well the great value of their creation, but unfortunately those upon whom fell the duty of enforcing this law neglected, at an early date, to study the law, and then apparently ignored or failed to enforce its most potent sections. Consequently in 1901 a new law was found necessary, and a fabulous price paid for its enactment. The price was the Osteopathic Act, a cheap, almost open door to the practice of medicine. How has this medical law operated during the past six years? We note an annual reduction of 25% of the regular licentiates, who now average 180 yearly, a reduc-

tion of 400% of the homeopathic licentiates, who average ten yearly, and finally a reduction of 1700 of the Eclectic licentiates, who now average about two yearly. The trend of thought among educated homeopaths is toward rational or scientific methods. Here in California they are advocating high educational standards, and we find them invariably among the strongest supporters of our medical law. Eclecticism is ready for the necropsy table. But let us now contemplate the reverse side of the medal and estimate what we have foisted upon the unsuspecting people of this State. About 800 licenses have been granted by the California Osteopathic Board of Examiners since 1901. At the recent February meeting of said Board a block of 170 licenses was issued—i. e., almost as many as the Medical Board issues during an entire year. And let us not forget that all these osteopathic licenses, with one exception, were granted without examination. Among the successful applicants before the Osteopathic Board we find a considerable and increasing proportion of applicants who failed ignominiously before the Medical Board. The sole licentiate by examination at the hands of the Osteopathic Board presented a worthless German certificate purporting to be a medical diploma from the University of Heidelberg. Perhaps the osteopaths' ignorance of the Teutonic tongue may seem pardonable, when shortly afterwards we find the same spurious certificate admitting its holder to advanced standing in a regular medical school of medicine in San Francisco.

Pardon, I pray you, this digression, and let us return to our muttons, the osteopaths. During the recent meeting of the Legislature the osteopathic delegation stated, without compulsion, that their licentiates practiced medicine, surgery and the various specialties, resorting to drugs and to the knife whenever necessary. "Their ambition," said they, "was to be known as practitioners of medicine, in the broad sense of the term." It is therefore obvious that the present medical law has made the requirements much more rigid for our own followers, while it has created a wide door through which the illiterate entered the practice of medicine. The evil was flagrant. Our medical law was suicidal, although constitutionally sound. A new law became imperative. Hence the law which takes effect May 1st, a law in the framing of which liberality has been the dominant note. The new law may not be ideal, but the perusal of the decisions of the Supreme Courts of other States justifies us in asserting that it will successfully run the gamut of judiciary bodies of California. To those who view with a feeling of suspicion, any association with the osteopathic fold, I say have patience; let us await the result of the experiment, which according to recent experience is one of assimilation. Lest history repeat itself, we must not forget the absurdities and follies of our ancient quarrel over pathies.

Whence will the new law conduct us? No law is self-operative. Isolated, sporadic enthusiasm must succumb to general apathy. I sincerely believe it is within our power to advance the cause of medical education, to ameliorate the status and lighten the burden of the practitioner of medicine in this State; but a happy slolution of the serious problems confronting us will require active intelligent co-operation. The influence for good, the power of this society, is just proportionate to the degree of initiative and willingness of its average member.

A final word in reference to the prosecution of illegal practitioners, which, under the new law, may become one of the Board's functions. In many States the enforcement of the criminal statute is delegated by the Legislature to the State Society. The California law makes us your agents in this matter; hence the urgent reason for the co-operation of the State and County Societies with the Board of Ex-

*Read at the Thirty-seventh Annual Meeting of the Medical Society of the State of California, held at Del Monte, April 16th, 17th and 18th, 1907.

aminers, in view of inaugurating and maintaining a vigorous campaign against violators of the law. The experience of a member of the Board shows the almost insurmountable obstacles encountered and the consequent need of the influence of the profession in prosecuting illegal practitioners, especially when, in the case of the licensed M. D., the most culpable of all offenders, the friends of the defendant, the faculty of his alma mater, flock to the judge's chambers or to the witness-stand to give the defendant a good character. The illegal practitioner expects to find, and does find, protection and immunity in the medical profession itself, which so often gazes silent, indifferent and apathetic upon some enthusiasts who, single-handed, are doing the dirty work in the lower courts of justice.

For the sake of principle the conviction of one educated violator of the law would do more good than the imprisonment of ten ignorant fakirs. Fellow members, I again urge that the directors of this Society devise some plan of co-operation between the County Societies and the Board of Examiners.

I thank you for your attention and your support, to which we must attribute whatever good we may have accomplished. The endorsement of our work by official and educational circles of other States is but the echo of your generous support.

SPECIFIC THERAPY IN TUBERCULOSIS.

By GEORGE H EVANS, M. D., San Francisco.

Nearly 17 years have elapsed since Koch made the remarkable announcement of the discovery of a remedy prepared from a concentrated culture of the tubercle bacillus for the treatment of tuberculosis. The events of the year or two following this announcement are vividly impressed in the memory of all of us who were interested in this great subject at that time, and Koch's laboratory became the Mecca of hundreds of students in tuberculosis from every land, who hurried thither, filled with the hope that the great savant, whose name was so intimately linked with the scientific progress of discovery and achievement in this malady, had really solved the problem of specific medication. We know, likewise, only too keenly, the bitter disappointment of those who, on returning to their homes, applied tuberculin, a remedy prematurely announced by its discoverer, insufficiently understood, unintelligently applied in improperly selected cases, with results which, under such conditions of administration, were inevitable. The hope of the discoverer and his followers was not realized, and tuberculin, as far as the general profession was concerned, sank for the time being into disrepute and oblivion. In the years which have intervened, however, the fundamental facts on which tuberculin therapy depends have been undergoing elaboration, and, with our ever increasing knowledge of the laws of immunity, our conception of the role which tuberculin plays has undergone great modification, and, as far back as 1897, when Koch produced his new tuberculin T R, which consists of the entire substance of the tubercle bacilli, the old conception that tuberculin had direct curative action had been abandoned. It is with the abandonment of this old conception, and the development of tuberculin as a vaccine, and by

a vaccine I mean a "substance which, when introduced into the body, causes there an elaboration of protective substances," that the present day conception of tuberculin therapy has arisen.

The way has been long and intricate that has been traversed by the investigators of the laws of immunity, and the clash of the arms of the opposing schools has resounded time and again throughout the scientific world. The theories of Ehrlich and Metchnikoff are, however, in accord, in essential results; and if one accepts Metchnikoff's definition of immunity against infective diseases as "the group of phenomena in virtue of which an organism is able to resist the attack of micro-organisms that produce these diseases," the question whether the leucocyte must be regarded as the source of the bactericidal substance of the body fluids need not particularly concern us in this discussion; for both schools have a common point in the admission of a cellular immunizing property.

The fact of the artificial induction of immunity is accepted to-day as a fundamental principle in medicine as the result of the labors of Jenner, Pasteur, Behring, Wright, and others; but the brilliant achievements of the latter investigator have opened up new fields in therapy hitherto impossible of attainment. While Ehrlich, Buchner, Pfeiffer, and others, had shown the protective properties of immune sera, it remained for Wright to demonstrate practically the presence of bacteriotropic substances (opsonins) in the blood serum, and, by a most ingenious technic, to determine the quantity of this substance, and to show conclusively the effect of the inoculation of vaccines on its content. The nature of these opsonic bodies is of great interest. They unquestionably must be classified along with other bacteriotropic bodies, which are known to exist: e. g., antitoxins, agglutinins, precipitins, and lysins. This theory can be very well reconciled with the fundamental principles of the schools of Metchnikoff and Ehrlich, and they would appear to have a similar function to fixatives or amboceptors, in that they either have a chemical affinity for both bacteria and cytases, or they sensitize the elements to the fermentative action of the cytases.

The practical application of this discovery to tuberculin therapy is not far to seek, and the events which follow the inoculation of tuberculin can be best given in Wright's own words, which I quote from a communication to the Royal Medical and Chirurgical Society:

"Upon the inoculation of the vaccine there supervenes a period of intoxication which is characterized by a decline in the anti-bacterial power of the blood. This 'negative phase' is more or less accentuated and prolonged according as a larger or smaller dose of the vaccine is inoculated. In the former case the 'negative phase' may disclose itself to clinical observation by a temperature reaction and constitutional disturbance. In the latter case the 'negative phase' may be quite unaccompanied by clinical symptoms. Upon the 'negative phase' there follows a 'positive phase.' This phase, whose characteristic

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feature is an increase in the antibacterial power of the blood, corresponds to a period of increased resistance. The curve whose trace sets forth the changes in the antibacterial power of the blood, runs up in many cases into a sharp peak and sinks away first comparatively rapidly and afterwards more slowly. There is associated in many cases with the climax of the 'positive phase' a sense of increased physical vigor and a very pronounced feeling of well-being. After the negative and positive phase, which train of events I have ventured to speak of as the 'ebb and flow and reflow of the tide of immunity,' the blood may be maintained for a variable period at a somewhat higher level of antibacterial power than before inoculation. Or, the antibacterial power of the blood may over and over again fall back after ten days or a fortnight to the level at which it stood anterior to inoculation."

By means of successive inoculations of tuberculin, at intervals governed by the opsonic index of the patient, which is arrived at by the comparative content of opsonins, with that of serum from a normal individual, the amount of these bacteriotropic substances is continuously increased until it is considerably in excess of that of the normal person. I do not wish to enter in detail into a consideration of the technic of opsonic observations, for the literature has been replete with it during the past year, but this paper would be very incomplete if the question of its practical applicability were not freely discussed. I do not believe that any one who has had the privilege of visiting Wright's laboratory and seeing the work there, can fail to be convinced of the accuracy of his methods, nor can the statement be gainsaid that we have in this method an accurate way of determining the amount and interval of tuberculin dosage. I do not believe, however, that Wright's method can be of universal application in clinical work in private practice until the elaborate technic necessary has been very much simplified, and as Bulloch, who is probably Wright's most enthusiastic disciple, has well said, the performance of the procedures advocated by Wright requiring time, skill, and the use of a laboratory, the problem will perhaps best be solved by our great hospitals undertaking, to a large extent, work of this class. An element of danger also exists in the fact that inaccurate results will necessarily be recorded unless the work is entrusted to skillful laboratory workers—results that will be fraught with serious consequences; for that the possibility of error is great, no one who has had any practical experience with the opsonic technic will deny. These facts place a limitation on the practical value of Wright's findings as a guide to therapy.

Again, considerable confusion exists regarding the classification of several bacteriotropic substances, found in the blood, and the relationship of opsonins to some of the other anti-bacterial bodies has not been sufficiently determined. It is reasonable to suppose, and indeed it can be demonstrated, that injections of tuberculin cause an increase of agglutinins as well as opsonins, and at the present time I am engaged in experimental work with the purpose of

utilizing the agglutinins as a guide to tuberculin dosage, by a technic more simple, and therefore with less element of error, than the more elaborate technic of Wright.

Uhl has been applying Arneth's methods of classification of the neutrophile leucocytes, as a means of tracing the progress of tuberculous processes under tuberculin treatment, at the Edmundsthal Sanatorium in Germany, with satisfactory results. Arneth, in a recent exhaustive monograph, has described his studies of neutrophiles in infectious diseases including tuberculosis, and gives a resume of his investigations in the latter disease. He adopts a classification of neutrophiles dependent on the number of nuclei, the cells with the more complex nuclei being considered the riper and more efficient ones. By an adaptation of this classification he has been able to demonstrate the relation between the course of the disease and the blood picture, and in this way applies the latter as an index of the defensive and protective efforts of the body against the infection. This work has been elaborated by Klebs of Chicago, who made a very thorough report at the last meeting of the National Association for the Study and Prevention of Tuberculosis.

Whatever the ultimate outcome of Wright's technic may be, however, as a guide for the administration of vaccine, his researches and magnificent achievements have done much to remove tuberculin therapy from the realm of empiricism, and have absolutely demonstrated its definite scientific value in treatment. In doing this he has demonstrated the fact that the greatest yield of protective substances is not produced by dosage sufficient to cause constitutional disturbance, and that the capacity of the organism for immunizing response is limited. In this light the failure of large doses of tuberculin is made apparent, and any dose sufficient to cause febrile reaction can only be looked upon as injurious.

As has been said above, it is with the recognition of the fact that the body must become immune to the entire bacillus and its products, that the present day conception of specific therapy had its inception. Buchner has clearly shown that some of the immunizing property seems to be in the albuminates of the bacterial cell. The specific poisonous substances found outside the parasites in the culture fluids are not identical with the protective substance occurring in the disease germs, or their metabolic products. Admitting this, we must necessarily turn from the products of bacterial cultures, such as old tuberculin, and look to those products which contain the endogenous toxins of the bacillus, for immunizing and curative properties. The studies of Koch, Behring and Pearson in bovine immunity produced by the injection of living human bacilli, and the same experiments by Trudeau on smaller animals, bring us back to the old principle first brought out by Pasteur in 1880 in his studies of protective inoculation toward fowl cholera. Theobald Smith and others, however, have shown the immunizing value of injections of killed bacilli; and it is significant that Behring, in his announcement before the Paris

Congress, stated that his experience had led him to a definite determination to abstain from introducing into the human body, for any therapeutic purpose, living tubercle bacilli.

At present it is unknown which substances of the bacillus plays the most important and decisive role in arousing the defensive reaction of the body, and hence the necessity of using such product as contains them all. Of the different preparations, my own experience during the past four years has been principally with Koch's T R, and von Ruck's watery extract of tubercle bacilli. The former consists of an extract of the ground unheated bodies of tubercle bacilli; the latter consists of the pure tubercle proteids dissolved out of the bacillary pulp by sterile distilled water after the fats have been extracted by sulphuric ether.

No more auspicious occasion could have been chosen than that of the meeting of the International Congress at Paris in 1905, when the eyes of the medical profession were steadfastly turned to that notable gathering, for the announcement to come from Behring, of the discovery of the existence of a curative principle depending for its activity upon the impregnation of the living cells of the organism by a substance proceeding from the virus of tuberculosis, and which he designated T C. When the T C has become an integral part of the cells of the organism, and has been metamorphosed by these cells, he designates it by the formula T X. In order to free the T C from substances which hinder its therapeutic action, he distinguishes three groups of bacillary substances, which he removes from the bacillus. It is then, from the remaining body, or "restbacillus," which it is claimed still retains the form and staining qualities of the tubercle bacillus, that the specific body T C. is obtained. No therapeutic results have as yet been reported from the use of this preparation.

Maragliano, who has been working for several years on the possibility of producing passive immunization by means of the milk of immunized cows, has succeeded, by means of inoculations of the filtrate of living and virulent tubercle bacillus cultures and bacillary pulp, into cattle, in producing a serum which protects experimental animals against the poisons of the tubercle bacillus, and also against the tubercle bacillus itself in pure culture, when given in doses which do not overwhelm the animal, but which have been shown to be fatal. The curative value, however, has not been sufficiently established, and results reported from the Phipps Institute from its use have not been promising.

Marmorek, then connected with the Pasteur Institute, in 1903 produced a serum for vaccination and treatment, based on the theory that tuberculin was not the specific toxin of the tubercle bacillus; hence it was impossible for it to elaborate specific antibodies for that bacillus. Marmorek's serum is prepared by injecting horses with cultures grown on such culture media as, in the opinion of the inventor, produced the specific toxin, almost to the

exclusion of tuberculin. While good results have been claimed by some, the serum has been severely condemned by French investigators. Prof. Hoffa of Berlin has, however, been very recently getting good results from its use in bone and joint tuberculosis, having reported forty such cases, the majority of which have been most beneficially influenced by the use of Marmorek's serum.

Dr. Baldwin has truly said that "ignorant haste, both in its use and condemnation, characterizes the history of tuberculin treatment," and this is particularly true as regards the selection of patients suitable for treatment. I believe it should be an axiom that tuberculin has no place in the treatment of acute cases of tuberculosis, for in such the machinery of immunization is paralyzed, by continuous auto-inoculations of toxins from the foci of infection. In all pyrexial cases it should be our aim to bring the infection to a condition of a purely localized infection by rest in bed and other appropriate methods. When this has been accomplished, we should endeavor to substitute for the inappropriately adjusted, and inappropriately interspaced auto-inoculations which wore down the patient without achieving effective immunization, a system of appropriately adjusted and appropriately interspaced inoculations of a tubercle vaccine. The greatest benefit from tuberculin treatment will be found in early cases, and in those chronic cases which, with a fair amount of disease, and a fair amount of cirrhosis and healing, are however stationary.

It will be urged by the opponents of tuberculin therapy, that this remedy possesses no advantages over the hygienic, open-air methods whereby natural immunizing results are acquired; that the curability of tuberculosis by nature's methods is daily demonstrated on the autopsy table on subjects who have died from other causes; that the magnificent results obtained in Sanatoria by prolonged open-air methods attest more eloquently than arguments of speech, the efficacy of such treatment. Our knowledge of the pathology of tuberculous lesions, and of the nature of the tubercle bacillus, must convince us that the chronicity of this disease is due to the difficulty with which specific toxins are liberated. The latency of tubercle in the tissues is, I believe, frequently the condition that is mistaken for cure in those discharged from Sanatoria; for large numbers of "cured" Sanatorium patients, where hygienic measures were alone carried out, have been known to have low opsonic indices. The cure of bacterial infections, tuberculous or otherwise, is not directly dependent on the breathing of fresh air, whether obtained in the arid regions of Arizona, in the balmy climate of Southern California, or in tent life at home; nor upon the deposition of fat in the tissues from forced feeding and prolonged rest. All these measures, valuable though they are, will fail, if the destruction of the invading bacteria is not accomplished, through the elaboration of the antibacterial substances in the blood.

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EARTHQUAKE SHOCK CONSIDERED AS AN ETIOLOGICAL FACTOR IN THE PRODUCTION OF MENTAL AND NERVOUS DISEASES.*

By JOHN W. ROBERTSON, M. D., Livermore.

The earthquake of April, 1906, and the social and individual disturbances based upon it are so far reaching, so many phased and, in some instances so badly distorted, that even the year which has elapsed cannot give us a full understanding of the real neurotic disturbances which can be properly charged to it.

It cannot be doubted that there was an absolute mental effect produced on the great majority of those who experienced this shock; and that this was intensified by the terror of the subsequent conflagration on those who were compelled to participate in the refugee environment; but just what part is to be attributed to the fright and what to the personal loss and the changed condition of social life is difficult of analysis.

It seems certain that, immediately following the earthquake and properly to be attributed to it was a condition of nervous shock—of a mental state bordering on stupor; possibly best described as a depressive condition having, as a pathological basis, a change of cerebral circulation. Apparently this varied in direct proportion to the nervous temperament but even the most coolheaded were slightly obsessed. There soon followed a condition of well-being, of thankfulness that they still lived—mild excitement not so much shown by hysteria as by exaltation—a condition possibly of slight cerebral congestion. Many stories illustrative of this phase were told and seemed to be a part of every day observation of those who lived with and were a part of the San Francisco population. Some of these acts showed such complete mental unbalance as not to be compatible with sanity. Many have remarked on the curative effect of the earthquake; of paralytics who walked, chronic invalids suddenly regaining normal health and even those who had long believed that they suffered from heart disease suddenly resuming their old active life. In

other words the earthquake was to many invalids a command, "Take up thy bed and walk," and while the cerebral congestion remained, immense energy was displayed and suggestive cures were possible.

The mental attitude of the whole population was reported to be one of exaltation. Though the first day had shown the immensity of the catastrophe and the three days' fire added to its terror, there were but few reports of breakdowns, of mental depression, or any real consciousness or appreciation of the great danger which certainly did exist and was patent to all. In spite of the calamity very many treated it as a huge joke, were hilarious and, if they felt disturbed, gave no outward sign. These acts were often regarded merely as an evidence of buoyancy, hopefulness and untamable spirit of the San Franciscan—not as a pathological brain strain.

Many assertions have been made regarding the causatic influences of the earthquake and its attendant ills on the production of insanity. It must be remembered that mental alienation cannot be produced at will, that the normal brain does not easily give way to stress and that, in all cases, we suppose as a basis of insanity not only a nervous diathesis but a predisposition to that form of nervous instability which has for a basis disturbed cerebral circulation. This fact is overlooked by many committing physicians, and our asylum records are rendered worthless, etiologically speaking, because of this misconception. If the brain, by inheritance, be unstable, any disease of any organ may cause mental unbalance. We practically ignore the emotions as predisposing factors, though it may be true that, in a brain weakened, these may act so profoundly as to either hasten or actually precipitate insanity. As a rule disturbance of the emotions is merely the first symptom.

Beyond question, in certain patients already mentally weakened, active brain disease was induced by the fright, worry and discomforts experienced during the earthquake disturbance; yet the vast number for which this is assigned as a cause has no basis in fact.

Study of the records does not bear out the fact of increase. Taking the statistics as furnished by individual asylums, that of Southern California has been ignored as not being in the earthquake zone, nor can Agnews be considered because of its total destruction.

Dr. Stone, Superintendent of the State Hospital at Napa, reports 266 patients admitted during the year 1905; while for the year 1900 there were 334—an increase of 68 for the earthquake year.

Dr. King of Mendocino also reports an increase of 42, there having been 236 admissions in 1906 and only 196 for the preceeding year.

Dr. Clarke reports an increase of only 10—432 against 422. This increase could be easily accounted for by the greater number of patients necessarily sent to the other three asylums because of the destruction of Agnews. Yet we find that of the 120 increased admissions, 69, or 60 per cent,

* Read at the Thirty-seventh Annual Meeting of the State Society, at Del Monte, April, 1907.

are charged to the first four months of 1906, preceding the earthquake.

Dr. Wadsworth, who is connected with the Board of Insanity Commissioners in San Francisco and who was personally conversant with conditions existing at the time of and following the earthquake, writes: "As to the earthquake as a cause of insanity, in my opinion very few if any became insane on that account; but some people who were not *perfectly* normal before, particularly old people, lost their minds, became confused, could not remember where they had lived or what relations they had, and it was necessary to provide for them. It would be impossible for me to state what proportion were made insane by the shock; should say only a very few as a primary cause."

A study of the complete records as furnished by Dr. F. W. Hatch, State Superintendent of Hospitals, which covers reports from all asylums, public and private, does not bear out the fact of increase.

From January 1, 1905, to January 1, 1906, 1448 patients were admitted; while from January 1, 1906, to January 1, 1907, there were only 1321, a decrease of 127 patients. It is hard to account for this decrease, except on the theory that 1905, which shows a phenomenal increase over the years preceding, was an exceptional one and did not properly represent the average yearly admissions.*

While it is probable that many people were sent away from California, yet not in such numbers as to justify this decrease. It is certain that many patients were sent to asylums because of changed family circumstances following the earthquake, even where the earthquake itself was not etiologically responsible.

Dr. Stone, in discussing the Napa report, says that "Eighteen who were committed during that period had as causes of their mental disturbance, the effect of the recent earthquake.

"I found that a large number of patients who were sent to the hospital, in which the cause was alleged to be due to earthquake shock, were those who had for some time previous been suffering from mental disturbances, and who in time would have found their way into our institutions. The shock of the earthquake only hastened their commitment.

"I also noted that a number of patients committed during that period were those who had been deprived of the use of alcoholic stimulants, while in other instances, a number of cases showed that the patients had never indulged in the excessive use of alcohol previous to the earthquake. A great many cases are in this hospital who had for a period of years been cared for at the homes of their friends and relatives. After the fire these relatives found themselves destitute and without homes, and it

therefore made it necessary for them to provide a place for the care of those unfortunates.

"Several cases committed to the hospital during that period were in the early stages of paresis, and would no doubt have been able to carry on their work for some time to come before breaking down completely, had it not been for the fire and earthquake. In these cases, the disease was progressing, and it only required the severe shock to hasten matters which made them a care in our hospitals.

"Three cases among the female patients who were admitted gave birth to children about the time of the disturbance, and the severe shock in connection with childbirth no doubt produced the mental disturbance which was only of a temporary character, and those patients were not in the hospital over thirty or sixty days.

"A number of old people who were committed were, previous to the fire, suffering from senile dementia, and the shock taken in connection with their general physical condition, had a serious result, making them more helpless mentally."

Dr. King says: "Upon a careful analysis of these cases, 117 males and 69 females, we find but 12 cases, 2 males and 10 females, where the cause of mental derangement can with any degree of propriety be attributed to the shock of the earthquake and fire on the 18th of April, 1906, and following.

"Thirty-two cases were said to be from hereditary and probably many more if it were possible to get a complete family history of these cases.

"The causes of the remaining cases given in the commitments, corrected by careful investigation after the patients had been received at the hospital, are the usual causes alleged in the production of mental trouble. I am a firm believer in what seems to me to be an undisputed fact, that insanity is a result of physical disease of the brain, and I am unable to conceive how a healthy normal brain can succumb to insanity. Certainly overwork, worry from loss of friends or property could not produce insanity without first producing some physical changes in the brain cells.

"I do not think that the shock of earthquake and the consequent loss of property and the worry and excitement following the incident thereto was a very potent cause of insanity; that these things may be exciting causes acting upon persons who have inherited from their ancestors neuropathic, unstable nervous systems is more than probable, but the real cause is the underlying neuropathic constitution."

While it is not probable that there was any close direct etiological relation due to the earthquake and the social upheaval following it, it is very certain that in another way its evil influence was great and is steadily progressing, and that many cases of nervous and mental breakdown can be justly based on changed conditions resulting from the earthquake disaster.

I meet on every hand profound functional neuroses, especially in the middle aged and old. There is a lack of nervous resiliency, a weakening of the recuperative faculties, mild neurasthenic conditions

* ADMISSIONS—
Year ending June 30, 1895.....1073; 1896.....1145
1897.....1200; 1898.....1160
1899.....1183; 1900.....1211
1901.....1219 1902.....1271
1903.....1299; 1904.....1283
1905.....1517; 1906.....1424

which are slowly developing into profound neuroses. The sudden changes of fortune, the immense difficulties to be overcome, the confusion consequent upon changed commercial conditions, have made the middle aged old and have tried to the utmost the reserve strength of the younger generation. The improvised cook stoves, the darkened house and even tenting on the camp ground lost their novelty and added to the depressing influence of the surrounding desolation. Upon the aged, the nervously weak, the millionaire reduced to the ranks, and on the hardworking citizen, who with those dependent on him, suddenly facing poverty, the effect has been more lasting. It is impossible to tabulate or to so reduce these facts as to have statistical value, yet it certainly is proving a serious factor, and it is possible that more nervous breakdowns will be attributed to 1907, than has been tabulated for the year 1906.

I find many men no longer equal to their old burdens, apparently not able to keep the pace they once set and resorting to alcohol to stimulate their flagging energies—unequal to the strenuous life.

While the days following the earthquake tried the nerves of the strongest with its pitiful scenes, its demands on even the weakest and its real suffering on all, it was not an unmixed evil. We who are a part of its active life see much to gratify our civic pride. A new city free from the blight of the old Chinatown, Tar Flat and the Barbary Coast, certainly freed from the old bubonic taint; cleaner, better built and morally regenerated. We shall remember with pleasure the self-sacrifice, heroism and true humanity that characterized the darkest days, and will have no shame when our own part in this time of trouble becomes a part of medical history. Certain it is that the disaster was bravely borne and that misfortune cemented the many conflicting elements into one solid phalanx working for the public good, forgetful of individual intents in the attempt to safeguard the homeless and helpless.

ANALYSIS OF THE STOMACH CONTENTS; INDICATIONS, FAULTY METHODS AND WRONG INTERPRETATIONS.*

By BOARDMAN REED, M. D., Los Angeles.

In what cases is it necessary to have the stomach contents examined? Manifestly in all those with symptoms referred to the stomach which are not improved after a few weeks of treatment, dietetic and medicinal, prescribed at a venture. The phrase, "at a venture," is used advisedly, for the aberrations of secretion which play so large a role in the diseases of the digestive system cannot be diagnosed with any approach to certainty from the symptoms alone; and the motor derangements also are most accurately measured by taking up the gastric contents at certain intervals after a test meal.

Symptoms referred to the intestines call for a study of the gastric chemistry and motility quite as much as those which seem to involve the stomach only. Even when a disturbed bowel function is primary, as in constipation with secondary stomach trouble, it is most important to learn in just what way and to what extent the stomach is implicated to insure a proper choice of remedies. But when a diarrhea is directly dependent upon a deficiency of the gastric juice, or perhaps, upon an old neglected gastric catarrh which has gradually progressed downward, how are we to cure it by giving opiates and astringents or any other drugs while in ignorance of the cause? Equally impossible is it, as a rule, to overcome permanently a constipation which has resulted from any of the forms of hyperacidity, without having first discovered and remedied the fault in the stomach.

It is presupposed that in every case of chronic ill-health, especially in women, there has been an exploration of the abdomen externally to exclude displacement, dilatation, etc; then, when in the absence of any such faults or after correcting them, if present, there are gastric symptoms such as pain, eructations, vomiting, flatulent distention, etc., which do not yield to diet and a cautious experimenting with drugs, the test meal and an analysis of the gastric contents should follow. This helps much in deciding whether we are dealing with ulcer, cancer, catarrh, or a pure neurosis.

And not alone in cases in which there are obvious gastrointestinal symptoms, are analyses of the gastric contents often required. It is exceedingly common to meet with serious forms of disease in some part of the digestive system without any inconvenience having been complained of in the organ actually affected. Careful clinicians who make it a rule to examine the abdominal organs in all doubtful chronic cases, often encounter headaches, insomnia, neurasthenia, a variety of skin diseases, etc., which do not yield until some such obscure gastric, hepatic or intestinal trouble has been sought out and remedied. In illustration of this point brief mention is here made of one interesting case:

Early last January a dentist came to me from Chicago with insomnia and the worst eczema of the face I had ever seen. This had existed eight years and been ineffectually treated by numerous physicians, including the author of one of our leading works on dermatology. The patient had considered his digestion and bowels normal, but I found hypoauidity, much butyric acid fermentation and a relaxed pylorus, which allowed a mass of sour, undigested food to be propelled into the duodenum prematurely. In consequence there were offensive bowel movements inclined to be loose; also atony of the colon with too long retention of the feces, though the bowels moved usually at least twice a day. A moderate restriction of the diet and the administration of a small dose of castor oil at bed time with ten grains of sodium benzoate three times a day, in addition to the appropriate local measures and regular out-door exercise, were followed by a clearing up of the face and a return of

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

sound sleep by the end of three weeks. The patient has remained practically free of eczema, except some threatenings of a relapse, due to imprudence in diet, and now regularly enjoys plenty of refreshing sleep.

Faulty methods: If we may judge by numerous contributions to medical journals, absolutely unreliable methods of testing the stomach contents, are largely employed. It should be manifest that in making quantitative determinations of the hydrochloric acid, we require a reagent which will not give its characteristic reaction with anything else likely to be present in the stomach. An indicator that will respond not only to HCl, but also to several of the organic or fermentation acids in such quantities as may be found in the stomach, is clearly not trustworthy. Congo red, for example, will react to even very small amounts of almost any kind of free acid, organic as well as mineral, and yet we frequently see it mentioned in medical papers as a test especially for free HCl.

Tropeolin OO is another unreliable agent which is employed in some quarters as an indicator in making the same test; and one writer has strongly insisted that it is the best of all such indicators, while at the same time condemning as untrustworthy dimethyl-amido-azo-benzol, which is the one now in most general use for the purpose. To help settle this question, I carried out a series of experiments recently in my laboratory in Philadelphia, with various dilutions of hydrochloric acid and of the different organic acids likely to be in the stomach, and also, with the help of my assistants, analyzed thirty-five specimens of stomach contents, each by three different methods—that of Mintz, with Guentzburg's reagent, of Toepfer, with dimethyl, etc., and by titration with tropeolin OO. Still more recently since coming to Los Angeles, I have made a number of additional observations in the same line. The results of these experiments and observations are here summarized. They show, in agreement with the findings of most other observers, that phloroglucin-vanillin (Guentzburg's reagent) will react to mineral acids only and HCl being the only such acid to be found in the free form in the stomach, unless when some of the others are taken into it as medicine or otherwise, it affords an accurate measure of the quantity of that acid present in the gastric contents. By means of this reagent, I have been able to recognize it when diluted to the extent of one part of the official chemically pure hydrochloric acid in upwards of 30,000 parts of distilled water.

Aqueous dilutions of the same acid were next tested with both dimethyl, etc., and tropeolin OO as indicators and, comparing one with the other, they proved to be about equally sensitive to it, both responding to a dilution of one part in 20,000, though the color change was a little more marked at this dilution when the dimethyl, etc., was used.

Tests were also made of the comparative sensitiveness of these two reagents to solutions in water of the free organic acids which may occur in the stomach. Tropeolin OO proved to be more sen-

sitive to most of these than dimethyl, etc., and, therefore, would be likely to be less trustworthy as a means of measuring the proportion of free HCl when mixed with organic acids in the gastric contents.

Dimethyl-amido-azo-benzol was shown by these experiments to be quite sensitive to lactic acid, reacting to one part of it in 750, but very little so to the other organic acids in aqueous solution. In the tests, however, of numerous specimens of stomach contents, this reagent as compared with Guentzburg's gave almost uniformly somewhat higher figures and in the case of those showing by their odor much fermentation, the difference was so marked as to make the results of the former very misleading. Hence, since completing these investigations, I have made it a rule in important cases, including generally the first analysis and especially in examining gastric contents, the odor of which points to excessive fermentation, as well as those in which there is a suspicion of cancer with much lactic acid (which has no marked odor), to confirm the findings as to free HCl, by making also the quantitative test with the Guentzburg reagent. This takes much more time, but the results can then be depended on.

Tropeolin OO, on the other hand, while it proved extremely sensitive to the organic acids in aqueous solution, and also to a like solution of free HCl, gave abnormally low values for the latter in actual tests of gastric contents. In two, only, of the thirty-five analyses did it give values for that acid as high as the Guentzburg reagent. In fifteen of them in which the same acid was shown to be present by the accurate Mintz method, none or a trace only was found with tropeolin as the indicator. The latter is thus proved to be utterly valueless as a test for free HCl. Experiments are lacking to show why it responds so differently to aqueous solutions of the free acids and the same when mixed with the gastric contents. It is likely that the albumen and peptones in the latter interfere in some way with the reaction.

Wrong Interpretations: Attempting to judge of the gastric secretion by the results obtained from a mere qualitative test for free HCl, or from this and a quantitative determination of the total acidity alone, is not only depending upon a faulty method, but also involves a wrong, or at the best, a doubtful, interpretation. Such meager data do not warrant any conclusions upon which a diagnosis could be surely based, though they give partial information which may be helpful at times. A positive reaction for free HCl, even with a correct method, may occur when there is a marked deficiency of that acid in the aggregate, with only a minute amount of it present in the free form; and at the same time the combined HCl might be abnormally low. Or with the same findings there might be a marked hyper-chlorhydria and, as is usual with this condition, a relatively small amount of the combined HCl, showing the proportion of proteids peptonized to be deficient—less than often happens when the free HCl is low.

On the other hand, the failure to find any free

HCl, may be by itself of little moment; for there is sometimes an extra large proportion of it combined with the proteids of the food, which could only be certainly shown by the quantitative test for combined HCl. This can happen especially when the specimen tested is taken up some hours after a dinner or other heavy meal. The total acidity would throw additional light on the problem for one accustomed to interpreting the results of gastric analyses, but it would be impossible for even the most expert to know just how much of the total acidity might represent combined chlorides of the food bases and how much of it organic acids and their products, unless special extra examinations were made to determine separately the amounts of these.

Just as I had finished writing the foregoing part of this paper, a gentleman called to consult me on account of a stubborn chronic constipation. Examination revealed, besides atony of the colon, a large area of infiltration in the right lung, locomotor ataxia, enlarged prostate gland, enlarged liver with a suspiciously tender gall-bladder and movable right kidney. The analysis of his stomach contents nearly three hours after a hearty mixed meal, gave as the principal findings, an entire absence of free HCl and a low total acidity—only 56—but on the other hand, the combined HCl was comparatively high—28—only a little below the normal figure for such a meal. Here the work of peptonization was comparatively good and very little of the total acidity represented organic acids. The next patient, seen the same morning, had flatulence, constipation and catarrh of both stomach and bowels. Four hours after a similar breakfast his gastric contents showed by the Guentzburg test, free HCl 38, combined HCl 16 and T. A. 60. Here the free HCl was somewhat high, the T. A. too low and the combined HCl also proportionately low, showing a comparatively poor peptonization. Both these are to be classed as cases of hypoacidity, the secretion in the latter being much more deficient than in the former, notwithstanding that there was no free HCl in the former and at least a full amount in the latter.

Thus, when quantitative determinations of both the free and combined HCl are made as well as of the total acidity, the most important factors of the problem are given, so that one with a fairly good knowledge of such work, can judge as to the secretory activity of the stomach. But without having these three factors known, a correct interpretation of the findings is often impossible.

There are other tests, also, such as those for the rennet ferment pepsin, the changes in the starch of the food, etc., which often afford additional information of value. But one not somewhat familiar with these chemical processes might well be puzzled over even full reports of such cases as the two mentioned.

The contents taken up three to four hours after a hearty mixed meal, such as a dinner or ordinary American breakfast, are capable of furnishing even more information than those obtained after the

usual Ewald test breakfast, and at the same time, are still more liable to be wrongly interpreted. During the longer period any tendency to fermentation has had much more time to develop organic acidity with the tell-tale odors accompanying it. Any deficiency in peptonization will be markedly more apparent and the aggregate of the hydrochloric acid secreted, which may be learned by adding together the figures representing the free and the combined HCl, will indicate in a striking way any variation on either side from the normal secretory work of the organ. The sum of these two sets of figures should not be very greatly less, in a perfectly healthy patient, than the total acidity, the difference representing the organic acids and their salts. It should be borne in mind that the longer the food remains in the stomach, the higher normally are the values for all the elements, especially for the total acidity and combined HCl. That for the free HCl may be decreased, while the figures representing the combined HCl are proportionately increased.

Evidently, then, it is desirable when possible to introduce the tube and obtain enough stomach contents to make a number of the more important tests without which the conclusions must be liable to mislead. The ingenious devices by means of which a few drops of the gastric contents are obtained for one or two partial tests, should be regarded as makeshifts only. They are but little more satisfactory than the external method of determining approximately the amount of free acid in the stomach which has been described by me elsewhere. These easy methods are only to be recommended when it is quite impossible to obtain the necessary amount of the gastric contents for a reasonably complete analysis. To establish a diagnosis of real value in any doubtful case, not only must there be such an analysis carried out by means of reagents and methods which are unequivocal, but there needs to be also an intelligent interpretation of the findings so that they may become the basis of a proper treatment.

MEDICAL ORGANIZATIONS AND PUBLIC HEALTH WORK, WITH A SPECIAL APPLICATION TO THE MILK PROBLEM OF CALIFORNIA CITIES.

By GEORGE H. KRESS, M. D., Los Angeles, Cal.

I. THE PURE MILK QUESTION.

Several months ago, the Los Angeles County Medical Association appointed a Pure Food Committee, which committee, as its name would imply, was to endeavor to bring into being measures whereby only pure foods would be offered for sale in the community.

The first work taken up was that of pure milk. The intimate relationship between infant mortality and an impure milk supply is too well known to need repetition before this Society. It may safely be taken for granted that we are all agreed that if we could prevent the sale of impure milk, many lives

would annually be saved which under present conditions are needlessly sacrificed.

The Los Angeles committee considered the pure milk question in all its various phases, invited Eastern men who had had large experience with certified milk to appear before it, conferred with members of the Los Angeles Milk Board of Trade, heard the reports of the National, State and City Milk Inspectors, and finally, as the result of its own deliberations and the experience of the health officers of Los Angeles and Pasadena (who were two of the four members of the committee) decided to recommend to the Los Angeles Board of Health the adoption of a system of dairy inspection, as the best means of insuring a comparatively pure and wholesome milk supply for the largest possible number of people in the community.

The committee submitted to the Health Board a score card designed after the plan recommended by the Dairy Division of the United States Department of Agriculture, modified, however, to be adaptable to the peculiarities of climate and dairying in Southern California. (The United States Dairy Division score card, and the Los Angeles modification are printed as Exhibits A and B, to this paper. The United States card is a new form, which has appeared since this paper was written.)

The modifications in the score card adopted for Los Angeles were agreed upon by the Pure Food Committee and the Los Angeles Milk Board of Trade, meeting together for that purpose in joint session. As before stated the modifications in the Los Angeles score card were based largely on the fact that in Southern California the cattle may be kept out in the open throughout the year without detriment to their health. For the northern part of the state, the score card of the United States Dairy Bureau is perhaps better adapted. The U. S. Dairy Department at Washington will send copies of such cards to all who are interested, on application.

If you will examine the two types of score cards which are under consideration you will note on the back of each the description and value of the factors entering into the markings. A corps of inspectors taking up such a system should be trained under the same man, so that in any city, the markings will have, for all dairies and inspectors, as near the same value on each point as possible.

To return to the modifications suggested for Los Angeles, and which apply particularly to Southern California, it will be noted that instead of the second division of the U. S. Dairy Division card, entitled "Stables," we divided that section into (1) Cow yards and (2) Stables and Stanchions. This we did because the all-year-round climate of California of the South, permits the dairymen to keep their cattle out in the open without much overhead shelter. Two points in the markings of the United States card were taken away from the tuberculin-tested herd and added to the 25 points for cow yards, stables and stanchions, which is the same total as is credited to stables alone in the United States card. This was done because for

the present, the cleaner stables were more possible of realization than tuberculin-tested herds.

Another modification was in regard to the temperature used in cooling milk. The United States card gives milk cooled under temperature of over 60° Fahrenheit, no points, while at Los Angeles, if the temperature be over 60 and below 70°, two points are granted. This modification was made because the greater dryness of Southern California air, and the large amount of sunlight, does not favor bacterial decomposition as in more humid localities.

The score cards both total 100 points, but 100 points are extremely difficult to obtain. In fact, to obtain 70 points or per cent, requires rather liberal treatment in the marking of most dairies. The Los Angeles Milk Board of Trade agreed not to purchase any milk from dairymen whose dairies were below 40 per cent. It is hoped also to induce the Milk Board of Trade, in time, to offer a money premium to dealers who regularly score above a certain point, say 80.

After the adoption of the score card by the Board of Health, the Pure Food Committee and the Los Angeles Board of Health went before the City Council and requested an increase in the force of inspectors from two to eight. This request was granted and in April, to the amusement of the cartoonists of the daily press, the much-talked-of milk inspectors began their work. What they will accomplish is yet to be shown. That their influence will be for decided good, is not for a moment to be doubted.

These inspectors will investigate dairy conditions, not only in Los Angeles, but will travel through Tulare, San Luis Obispo, Kern and the whole tier of Southern Counties from which Los Angeles draws its milk supply. Wherever a filthy dairy is found, the sale of milk therefrom will be prohibited in Los Angeles, a report being made at the same time to the State Dairy Deputy, who, if he finds filthy conditions as reported, will prevent the sale of milk to local creameries or cheese depots. In this way it is hoped to place such difficulties in the way of uncleanly and filthy dairymen that they will soon be glad to go out of the business. (Note: Since the above was written precisely this result has come about. The filthy dairymen are going out of business.)

To make this campaign permanently successful for Los Angeles, the co-operation of the people and health officials of adjacent counties, as well as of the State at large, is needed. To that end the speaker was delegated by the Pure Food Committee of the Los Angeles County Medical Association to bring this matter before you, and to secure if possible the interest and support of the State Society and the component county units in this important work.

What we of Los Angeles desire is a State Pure Food Commission to take up this work, for the pure food problem is not a local one. It applies with equal, yes, with even more force to San Francisco and other cities in the State where climatic condi-

tions are even more favorable to an impure milk supply. If every county and city in the State will take up this and related work, and if the County Associations and State Medical Society through their Pure Food Committees will press the matter home, we could without doubt secure more State milk inspectors and so more thoroughly back up the work of local inspection. This co-operation and support by adjacent counties is absolutely necessary, if the effort is to be more than a spasmodic attempt to better local milk conditions in our larger centers of population.

On behalf of the Pure Food Committee of the Los Angeles County Medical Association, I request therefore your co-operation and aid in this important work and your support in behalf of such a commission.

II. MEDICAL ORGANIZATION AND PUBLIC HEALTH WORK.

And now to turn from the milk question to a consideration of the title of this paper, "Medical Organization in Relation to Public Health Work," which title was handed in through a misunderstanding.

Medical organization is absolutely necessary if the hundreds and thousands of lives are to be saved that are now unnecessarily lost every year through impure water, food and milk supplies, through improper disposal of sewage, through the absence of adequate and thorough registration and fumigation in infectious diseases, through the erection of ill ventilated and unsanitary buildings, and through the existence of ignorant and pernicious quackery, and so on.

The close connection between the public health measures just enumerated and the morbidity and mortality statistics of our land has been so often proven as to need no additional comment. Those and related causes are responsible for hundreds and hundreds of deaths, that could be saved to the State if the proper legislation were on our statute books and if it were energetically enforced.

It may truthfully be said that if this Society would turn its attention to those things and institute much needed State reform in regard thereto, there would be saved many fold more lives than will be saved through what we will learn at this Del Monte session from our scientific papers dealing with topics outside the general domain of public health and hygiene.

If in addition to saving these lives to the state, an organized profession also meant a profession of higher scientific tone, of greater fraternal spirit and of increased material prosperity, then surely the indications for medical organization are great indeed.

The many problems in public health pressing for recognition in California need not be discussed here. They would receive proper attention and solution, once we were powerful enough to secure all the public health legislation we need and to demand that it be properly enforced.

But before we can hope to secure the public

health laws and measures which we, as medical men, know are needed, we must as a profession be so organized and united as to impress our politicians and legislators with our power and influence with the public. Then and then only will they with alacrity give their support to measures intended to conserve the public health.

In other words, we must impress the dominating political parties and factors of the Golden State with the fact that the medical profession consists of a thoroughly organized and united group of professional men, who in civic measures related to the public health will punish with political death all politicians and legislators who, from selfish or unworthy motives, oppose sanitary and allied legislation which the best interests of the public health demand should be on our statute books and enforced.

There is no profession the members of which enter so many homes and who wield so much personal and other influence as that of medicine. Physicians know just what are our public health needs. If they will take the time to educate the public to likewise appreciate these needs, they can then, by presenting an unbroken front of medical men, with public opinion in back of them, demand and obtain from the politicians of the State everything needed in public health legislation or in the enforcement of sanitary laws. Politicians and officials mean to do the right thing, and with public opinion supporting them are only too glad to give the public what it wants. What is needed is a guiding force to public sentiment in public health matters. Logically, that guiding force is the medical profession.

It may be interesting, in connection with a discussion of this subject of organization, to consider for a few moments the status of medical organization in our own State of California.

According to the late Dr. R. H. Plummer, the first medical society of the State of California was established in 1856 by Thomas M. Logan, of Sacramento, and Elias S. Cooper, of San Francisco. Their society died in 1861 from internal dissensions. In 1870, Dr. Thomas M. Logan, secretary of the newly created California State Board of Health, issued a call for a reorganization of the State Medical Society in San Francisco, forty-six members attending (28 being San Franciscans) and thirty-one new members applying for admission. In 1871 the American Medical Association met in San Francisco, seventy-two new members joining the State Society at that time, making the total enrollment include more than one-half the practitioners of the State.

In 1880, with a State population of one million, there was a total society membership of 200; in 1885, with a population of 1,350,000, a Society membership of 350. At that time the State supported twenty-two local societies, there being a total of 1700 registered regular physicians, of whom 350 were members of the State Society.

Of San Francisco's 370 regular physicians, one-half, or 185, were members of the State Society.

Los Angeles at that time, with a population of 80,000 people and 200 registered physicians, was represented in the State Society by only eleven members, its County Society consisting of forty members.

At that time our State Society was largely a San Francisco organization, the result on the one hand of difficulty of travel from place to place, and on the other of the rather loose general organization which failed to bring the more distant members in direct association with the State Society.

According to our present Secretary, at the time of the reorganization of our State Medical Society on the American Medical Association basis in 1904, the membership was about 300, or some fifty less than it was twenty years previous. As a result of the reorganization on the county unit basis, the membership increased to 1575 in 1905, which number, according to the register of 1906, has since increased to 1821, the total number of registered physicians of all schools being 4023.

There are some 57 counties in California, and in only 36 of these are County Medical organizations, leaving 21 counties, or about 33 per cent. without any direct representation in this Association. Here then is a fertile field for present and future work in extension.

Not to be forgotten also, is the intensive growth or increased development of the county medical associations already in existence. The beneficent effects to county medical units of organization on the American Medical Association basis is well shown in the history of the Los Angeles County Medical Association. Before its reorganization some three years ago that organization was leading a precarious existence, having a membership of about forty and holding monthly meetings at which there was an average attendance of about fifteen to twenty. Today that same society has a membership of almost 400 members, maintains weekly meetings in the city of Los Angeles, with an average attendance of 55 to 65, has two sections in the specialties, and is credited with three prosperous branches in nearby cities. Since the beginning of this year more than twenty members have been added to the membership roll, and the campaign is on to enroll every eligible practitioner of non-sectarian medicine in the county.

What has been responsible for this remarkable growth? Largely the fact that the county medical unit, with associated membership in State and national organizations, is the logical basis of any rational and comprehensive scheme of medical organization.

It is an old saw which says, "Nothing succeeds like success," and nowhere does the saying apply with more force than in medical organization work. Each new society, and each additional meeting or section in a specialty or in a nearby town, benefits not only the immediate membership, but acts as a reflex tonic to all other phases of organization work.

To recapitulate concerning Medical Organization and Public Health Work:

There is annually a vast and unnecessary sacrifice of life owing to the fact that an ignorant or uninformed laity, or vicious vested interests, prevent the public health legislation which the medical profession knows should be on our statute books.

The medical profession fulfills its highest functions to humanity and the state when it prevents unnecessary disease and death.

If the medical profession of California would have brought into being and enforced the public health legislation which we know should be among our laws, more disease would be prevented, and more lives would be saved to our State, than we will be able to credit in all probability to the increased amount of scientific facts which will be added to medical and surgical knowledge during the coming year.

This public health legislation can be brought into existence only when an organized medical profession educates the public in regard thereto, so that public opinion will be so great that the politicians will be only too glad to give the people what they want.

A united and organized medical profession will, however, do more than this. It will induce also a greater scientific development than can be existent in an unorganized profession, and this because, in a condition of disorganization, only the true students strive after increase of scientific knowledge, whereas in the organized profession, the influence of these students and the effect of association with one's professional fellows is such, that the striving for intellectual and scientific progress becomes general, all who come within the sphere of the organization influence being benefited.

Organization means, then, more disease prevented, more lives saved, a more scientific, and a more fraternal and a more prosperous medical profession; in fact, the very things which are the ideals for which we should and do stand.

Is not, then, the perfect organization of the medical profession of California the paramount question and issue before us?

SYMPTOMS AND DIAGNOSIS OF HIP JOINT DISEASE.

By P. C. H. PAHL, B. S., M. D., Los Angeles.

Hip Disease in the Infant—We have four distinct varieties of hip joint inflammation; the tubercular, gonorrheal, syphilitic, and inflammation following the various acute infectious diseases and other organisms.

In early infancy, tuberculosis is very rare and an inflammation of the hip joint at that period of life practically excludes it. Gonorrheal inflammation usually follows in the steps of ophthalmia neonatorum, urethritis or vaginitis; there are cases on record where the joint discharges were proven to be gonorrheal. The infection was thought to have entered the general circulation through a gonorrheal stomatitis or infection through the air passages. The symptoms are very acute pain, swelling, restricted motion and mal position.

The syphilitic variety, sometimes termed pseudo-

paralysis, has an altogether different clinical picture. The swelling is usually well marked, some pain and interference with mobility, but no rigidity; the limb hangs motionless and limp to such an extent that the condition has frequently been mistaken for anterior polio myelitis. In the syphilitic variety anti-leucitic measures do wonders and are a factor in the diagnosis. If the diagnosis is not made, however, the condition invariably leads to suppuration and destruction of the joint. In later life, one frequently recognizes these cases by the peculiar white bulging and ragged scars, shortening and mal position of the limb, due to contractures.

In those cases in which the pneumococcus, bacterium coli, streptococcus and other organisms are found, the symptoms are very similar to the gonorrheal variety, but much less virulent in nature. In this and the gonorrheal variety the symptoms usually abate in from one to two months' careful treatment on a Bradford frame with slight elastic traction; there may, however, in two to four weeks after the onset, be a slight evacuation of a sero purulent discharge of the joint. These cases will have to be carefully dressed with mild antiseptic packs in conjunction with the Bradford frame treatment. The mortality is very high and a grave prognosis should be made.

It would be an easy matter to imagine the bacterium coli to be responsible for many cases, for it is more than probable that frequently the hip joint receives a trauma during a difficult labor, which would make a very suitable soil, if there should exist an auto infection due to some digestive disturbance which so frequently exists in the new born.

Hip Joint Diseases in Children—I have observed several cases of hip joint disease in children, following paritis, which proved to be non-tubercular. Tubercular hip joint disease occurs almost entirely in walking children.

The symptoms of hip joint disease are obscure and are frequently mistaken for what are called growing pains, rheumatism, knee joint disease, or even a poorly fitting shoe. They consist of lameness, pain, induration about the joint, limitation of motion and slight general constitutional derangement. As the case becomes somewhat advanced there is an apparent lengthening of the limb, muscular atrophy and, frequently, night cries. The child guards the foot of the affected side with the well one, and cries when any one attempts to move it.

When the child is placed upon the table with both legs side by side and extended, a tilting of the pelvis is almost always present and is recognized by the arching of the lumbar spine. In early cases there may even be some question as to which limb is affected; this can usually be readily decided by raising first one knee and closely observing if there is any change in the position of the lumbar spines; if you raise the knee of the healthy limb there will be no change in the arched condition; if you place your thumb and fingers on the two anterior superior spinous processes you will find that the healthy limb

can be moved in any direction without changing in any way the position of the pelvis. In the normal state you can place the heel of the healthy leg over the opposite hip joint. By placing one hand over the well joint in such a manner that the fingers grasp the posterior and upper part of the femur, the thumb just outside of the brim of the pelvis midway between the spine of the pubes and the anterior superior spinous process, and placing the other hand on the flexed leg, just below the knee, directing the patient to relax all the muscles as much as possible, reassuring him that you are not going to hurt him, it is possible, upon gaining the confidence of the patient, to get a very accurate idea of the normal amount of thickening of that particular child's hip joint, and you can readily determine the normal excursions of the head and neck. By alternately pushing and pulling with the hands upon the flexed leg, the laxity of the joint may be observed, a most valuable symptom in congenital dislocation as well as in those cases of tuberculosis where the head has become dislocated or where an epiphyseal separation has taken place.

Now let us examine the affected limb. We notice by carefully raising the knee that the arched condition of the spine immediately disappears. If we place the thumb and fingers on the anterior superior spinous processes and attempt to move the hip joint we find that the pelvis follows every movement of the thigh. If we again place the leg in an extended position on the table, the arching of the spine reappears. We examine the joint with one hand placed as before, the thumb outside of the brim of the pelvis, the fingers grasping the greater trochanter and posterior part of the joint, the other hand on the flexed leg; if the case at hand is a case of tubercular hip joint disease there will be perceptible changes which can be felt about the joint, such as induration, a general thickening or fluctuation. If the femur can be moved at all, the excursions of the head will be very hard to palpate. Pushing or pulling on the flexed leg, as well as rotation of the femur, will elicit pain, or, if the case is advanced and the destruction has been such as to destroy the direct connection between the femur and the pelvis, a laxity of the joint will be observed. In comparing the tension of the adductor muscles, it will be found that the affected limb is in a state of rigid contraction. An attempt at placing the heel over the opposite hip joint has been absolutely impossible in all true tubercular inflammations that have come under my observation.

The duration of tubercular hip joint diseases is practically never less than two years, and the general course of the disease has been divided into many stages, periods and conditions. Suffice it to say that in the early days of the disease the diagnosis may depend upon lameness, pain, inability to place the heel over the opposite hip joint, induration and thickness about the joint, muscular spasm of the adductors, reaction following the administration of tuberculin and an afternoon rise of temperature.

As the disease progresses and the limitation of

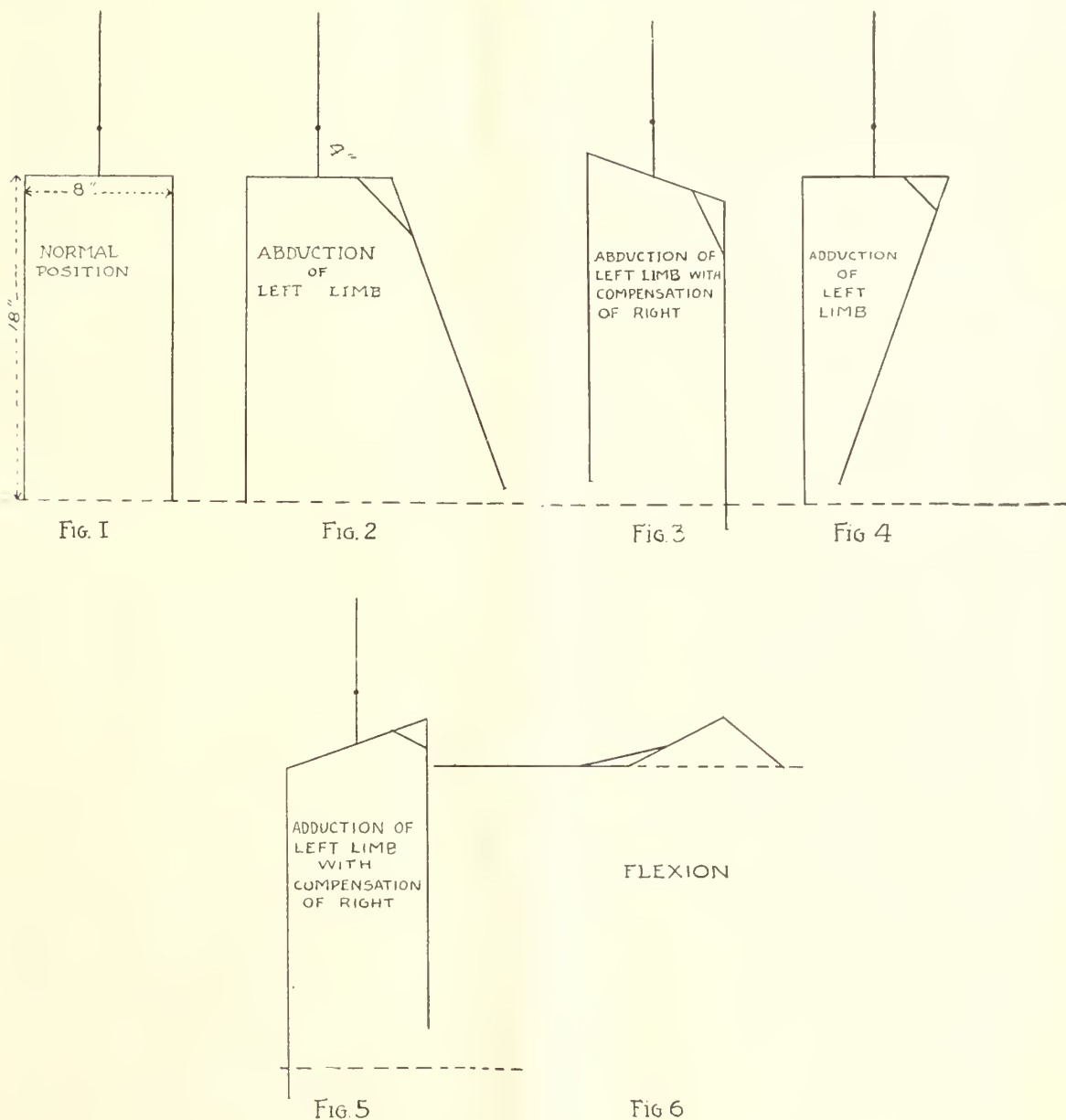
motion increases we get the arching of the spine; upon placing the limbs side by side we find the affected limb apparently longer than the healthy one. (See Fig. 3.) This lengthening of the limb is due to abduction; that is, motion of the joint has now entirely ceased and the thigh joins the pelvis at an obtuse angle, held there immovable by muscular spasm. The sub-spinous tissues are tense and unyielding; the adductors are in a state of rigid contraction.

When a leg has temporarily become ankylosed at about twenty degrees abduction it is easy to see that in order to place the two limbs parallel to each other it is necessary for the movable limb to accom-

modate itself to the immovable one; so, in Fig. 3, you will observe that the axis of the femur joins the horizontal axis of the pelvis at an obtuse angle, while the axis of the healthy limb joins the horizontal axis of the pelvis at an acute angle.

To place the limbs in a general line with the trunk, a tilting of the pelvis is necessary, and it is this tilting which gives the apparent lengthening of the limb. This stage of apparent lengthening is very transitory and disappears as the disease progresses; whenever it is encountered it is a sure indication that the onset of the disease is comparatively recent.

The tendency of prolonged irritation and inflam-



mation of the hip joint is for the limb to become adducted and flexed, which can also be said of practically every pathological state of the hip joint, congenital dislocation, traumatism in the adult, fractures of the neck and coxa vara. The condition is very readily explained; inflammation causes muscular spasm wherever it occurs in the body, as seen in appendicitis or in an infected gall bladder. A general spastic condition of the muscles of the hip joint causes adduction and, frequently, flexion, because the adductors are many times as strong as the abductors and moderate flexion of the hip joint relaxes practically all of the muscles about it. This is one of the conditions which we have constantly to combat in the treatment of the disease. Adduction gives the opposite result to abduction; that is, apparent shortening. (See Fig. 5.) The axis of the femur joins the transverse axis of the pelvis at an acute angle; all motion is absolutely lost through muscular spasm and, when the limbs are brought parallel to each other and placed in a general line with the trunk, it again becomes necessary for the movable limb to accommodate itself to the immovable one; the spine accommodates itself also to the immovable joint and the pelvis is tilted, the affected side up and the well side down. This is the real cause of the apparent shortening. (See Fig. 5.)

It is to be distinctly understood that the lengthening and the shortening is only apparent; that, in either case, the actual measurements from the anterior superior spinous process to the internal malleolus, are the same in both limbs, but the apparent shortening can be determined by measuring from the umbilicus to the internal malleoli. If the affected limb measures longer than the healthy one, it is in a position of abduction; if shorter, adduction; the degree depending upon the difference in the length of the limb.

When treating a case of hip joint disease it is interesting to know the amount of abduction or adduction present. This knowledge is obtained in several ways—one by the use of an instrument known as a goniometer, which is placed, one limb over the transverse axis of the pelvis, the other following the axis of the limb. The number of degrees of abduction or adduction can then be read. Another method is by using "Lovett's Table," which is given in all modern text books.

Flexion—The amount of flexion can readily be determined by placing one limb of the goniometer on the table, the other in the axis of the femur, while the limb is held in such a position that the lumbar spines touch the table. Another method is by the use of the "Kingsley's Table," which can be found in the text books.

Next to adduction, flexion is the most troublesome symptom and requires constant attention in order to keep the leg from becoming deformed. (See Fig. 6.)

Method of Measuring—The following method is a generally accepted standard: The anterior superior spinous processes are located and the skin is marked; next the upper margin of the patella is

found and marked on the skin. With a tape the distance between the patella and the anterior superior spinous process is determined. This distance is divided in half, and wherever that point may be the thigh is marked. Next the internal malleolus is marked. Both limbs are marked alike.

To facilitate the work, certain abbreviations have been accepted; for example, in measuring the right limb the first measurement, after the limbs have been placed side by side on a level surface, is from the anterior superior spinous process to the internal malleolus and is designated by R. A.; the next measurement, from the umbilicus to the internal malleolus and is designated by R. U.; the next, the circumference of the thigh, which is designated by R. T.; the circumference of the knee by R. K.; the circumference of the calf by R. C.; A. G. E. indicates the angle of greatest extension; A. G. F. the angle of greatest flexion. A. S. P. distance between anterior superior spinous processes, and R. B., which indicates Bryant's line, the distance between the level of the anterior superior spinous processes and the top of the great trochanter. It is customary to write the R. A., R. U., R. T., R. K., R. C., A. G. E., A. G. F., A. S. P. and R. B. in one line, leaving space enough between each for writing the figures. The measurements of the left leg, which are indicated by L. A., L. U., etc., are placed immediately beneath those of the right, so that the difference in different measurements becomes very apparent. This is most essential, as the different measurements are only relative; for example, the measurements of the diseased limb are compared with those of the healthy limb.

Practically the only symptoms of tubercular abscess formations are fluctuation and swelling. It is usually not until a mixed infection occurs that pain, a rise in temperature and symptoms of sepsis manifest themselves.

TWO ANOMALIES OF THE SIGMOID COLON RESEMBLING DIVERTICULA.

By J. C. BLAIR, M. D. (From the Hearst Anatomical Laboratory of the University of California.)

Much work has been done of late upon the topographical relations of the various abdominal organs, and many points of theoretical and practical importance have been brought to light. One result of this work has been to emphasize the great variation which the different segments of the large intestine present both in form, position and size, and especially is this true in those of the sigmoid segment. This portion of the intestine, with its long mesentery, its narrow base and consequent freedom of motion, shows by far the greatest departures from the normal and offers many diagnostic difficulties.

Diverticula of the intestine are also attracting more and more attention, both medically and surgically, and although the following two cases do not prove to be fully developed diverticula, they still offer some points in the development of these conditions which may be of sufficient interest to warrant their presentation.

Case I. This specimen was obtained from the dissecting-room and its history from the records of the City and County Hospital of San Francisco.

History: W. E. Laborer, age 57. Was admitted to the wards June 12, complaining of general weakness and vomiting. Two and one-half months previous to entrance he had noticed that his legs were weak and that it was impossible to stand. There was considerable enlargement of the abdomen. He had irregular attacks of vomiting, at times of bile, but no blood. He had not passed any blood per rectum since having dysentery.

Examination: Physical examination showed an emaciation of moderate extent. The right lung was partly consolidated. The upper border of the liver was in the fifth intercostal space, the lower four inches below the costal margin in the midsternal line. The abdomen was distended and tympanitic, but no ascites. There was a distinct bulging over the left lobe of the liver and the liver area was tender. The vomiting ceased after the administration of ealomel and the patient felt much improved, but death occurred June 17th.

Diagnosis: Carcinoma of liver.

Autopsy: On opening the abdomen there was no evidence of a recent peritonitis. The omentum was free with the exception of old adhesions in the upper left quadrant. The peritoneum over the caecum and ascending colon was white and thickened. The liver was considerably enlarged, reaching eight centimeters below the costal margin in the right mammillary line; border sharp, regular and firm. The cut surface showed a uniformly granular appearance with no tumor mass. The caecum and ascending colon were normal in position, while the transverse colon was distended and arched downward seven centimeters below the umbilicus. On the left it passed upward and disappeared beneath a mass of adhesions and matted omentum in the region of the splenic flexure. In its further course the intestine emerged from beneath these adhesions in two parallel segments, an outer A and an inner B, which passed downward toward the pelvis, both lying to the left of the vertebral column. (See figure.)

The inner segment B passed downward and to the right, crossed the brim of the pelvis at the left sacro-iliac junction and continued directly into the rectum, its course thus corresponding approximately to that of the descending colon. It had no mesocolon and was firmly attached to the posterior abdominal wall. Its lumen was about five centimeters in diameter, being slightly narrowed at the distal and proximal ends. The outer segment, A, was situated at the junction of the posterior and lateral walls of the abdomen and appeared as a blind pouch or diverticulum, derived from the splenic flexure of the colon and whose fundus lay in the left iliac fossa. Like the inner segment it had no mesocolon. Its length was fifteen centimeters and its diameter four centimeters. Its fundus was about three centimeters to the right and above the anterior superior iliac spine.

Surface markings: On the transverse colon, the appendices epiploicae (a. e.), the anterior taenia (a. t.) and the attachment of the great omentum occupied their normal relative positions. As will be noted in the accompanying figure, the line of appendices epiploicae was continued on the left into a broad, thin fibrous band (c) which stretches between the transverse colon and the anterior surfaces of the two segments.

Upon the inner segment (B) two taenia were visible. At the inferior extremity their fibres began to spread out upon the intestine and finally completely encircle it where it crossed the brim of the pelvis. Transverse fibres were visible in the whole extent. The appendices epiploicae were well marked along the proximal half, but in the distal portion

were represented by small fat pads closely adherent to the intestinal wall. The outer segment (A) likewise showed the surface markings of the large intestine. Its taenia remained distinct throughout.

Peritoneum: Where the peritoneum was reflected from the intestine on to the posterior abdominal wall there was formed a number of fossae. These were more numerous along the inner segment and were of varying size, some admitting the tip of the index finger to the depth of four centimeters. Along the outer segment there were no lateral fossae, but at its distal extremity there occurred three folds of peritoneum forming two fossae (f), both extending upward and backward. At the bottom of the larger fossa could be seen a well marked appendix epiploica. The space between the proximal ends of the two segments was bridged across by a broad, flat fibrous band (c) which passed from their anterior surfaces to the transverse colon. It was attached to the colon along a line in direct continuation of the appendices epiploicae. The finger could be introduced beneath this band into a small cul-de-sac about four centimeters in depth. Laterally could be felt the two segments, A and B, and fibrous bands which connected them to the transverse colon. Superiorly there was the transverse colon, while posteriorly there was a flaccid portion of intestine which apparently directly connected the proximal ends of the segments.

Where the colon was moderately inflated and each segment separately distended, it was evident that the outer segment consisted of two compartments, an anterior and a posterior, and further that the outer segment communicated with the inner through the small portion of intestine lying at the bottom of the cul-de-sac.

When the adhesions were cut and the peritoneum dissected away, it was seen that after the transverse colon disappeared beneath the adhesions in the left hypochondrium, it ran upward for about seven centimeters to the splenic flexure and then down to the iliac fossa, constituting in its lower part the posterior compartment of the outer segment. At the point where the sigmoid normally begins, the intestine turned abruptly upon itself and ran upward to the transverse colon forming the anterior compartment. At the transverse colon it turned to the right, as the floor of the cul-de-sac, bent downward and became continuous with the inner segment.

Although the two compartments were superimposed, they were separated by a small amount of loose fatty tissue in which there were a number of bursa-like spaces, some empty, others filled with a yellow oily fluid. All these bursae were in direct contact with some portion of the peritoneal lining of the intestine.

When the intestine had been freed, it was seen that the colon ran practically a normal course as far as the beginning of the sigmoid. When the remaining intestine was pulled down toward the pelvis it was found to occupy a position almost identical with that of the sigmoid.

The blood vessels of this portion had a significant arrangement. The descending colon and sigmoid flexure are normally supplied by branches of the inferior mesenteric artery, which are three in number.

(1) Left colic artery, whose branches anastomose with those of the colica media and with the sigmoid arteries.

(2) Sigmoid branches.

(3) Superior haemorrhoidal, which is the continuation of the main artery upon the rectum.

In this case, however, it was found that the main branches had their usual origin, but, in their further distribution, they were arranged in an anterior and posterior plane. Those of the posterior plane were derived from the colica sinistra and supplied the splenic flexure and posterior compartment.

Those of the anterior plane were derived from the sigmoid branches and supplied the anterior compartment and all of the inner segment. The two planes were easily separable and in some places there were small bursae between them filled with an oily fluid. The general course of the arteries of the anterior plane was in an upward direction, although they arise lower down than those of the posterior.

The large intestine was practically free from faecal matter with the exception of a small clay-colored mass in the transverse colon. The mucosa of the transverse colon was smooth and regular and there were no cicatricial contractions along the line of adhesions. The wall of the posterior compartment of the outer segment was considerably thickened and the lumen was one and one-half centimetres in diameter. The mucosa was thrown into closely set folds in which there were no cicatrices. At the point where the intestine turns backward there was a moderate constriction and a prominent fold of mucosa projected into the lumen from the angle. In the posterior compartment the walls were thin, the lumen much larger and the mucosa smooth. The wall of the horizontal portion connecting the two segments was thickened and the mucosa thrown into numerous folds, but there were no cicatrices. The mucosa of the inner segment was normal.

Case II. History: The only fact obtainable was that the patient's bowels had always been very difficult to move.

Autopsy: In the abdomen there were found extensive adhesions in the left extremity of the transverse colon. The splenic flexure was not involved, and thus the course of the intestine could be more easily followed than in Case I. From beneath these adhesions there emerged two segments of intestine, an inner and an outer, having approximately the same position, course and structure as those previously described. The two compartments of the outer segment were not directly superimposed throughout, but only in their lower two-thirds. The upper portion of the anterior compartment passed to the right to become adherent to the transverse colon. The distal extremity of the outer segment was not closely bound to the posterior abdominal wall, but presented a somewhat bulbous enlargement resembling the caecum. The adhesions between the transverse colon and the outer segment seemed to be arranged in several layers, the more posterior being thicker and stronger than the anterior.

The transverse colon was distended with an amount of soft, fluid faecal material, while both compartments of the outer segment were filled with discrete scybalous masses varying from two to four centimetres in diameter. The mucous membrane of the transverse colon showed many small superficial scars along the line of the adhesions, while in the posterior compartment of the outer segment the walls were thin and the mucous membrane more smooth. However, over the entire surface were scattered small scars involving only the mucosa. There were two large haemorrhagic ulcerations on the anterior wall, each about two centimetres in diameter. The borders of these were irregular, their floor being formed by the muscularis and the inflammatory process having extended through the serosa so as to firmly unite the adjacent areas.

The walls of the anterior compartment were thick and there were a few atrophic areas in the mucosa, two of which corresponded to the large scars lying beneath. Opposite the adhesions on the transverse colon the walls were very thick. As it was necessary to remove the specimen from the body for further study, the relation of the blood vessels to the different segments was not determined.

Formation of the Anomalies: After a study of

the structure and relation of these two specimens, there can be but little doubt as to the nature of their formation, and it is evident that the structures which, in the undisturbed position of the organs, appeared as diverticula, were merely displaced segments of a normal large intestine which had assumed new relations.

The sigmoid had been distended and pushed upward, a portion near its apex had become adherent to the transverse colon, the proximal limb had united with the descending colon and the distal with the posterior abdominal wall. Most of the points in favor of this view have already been brought forward. In the first place there were no demonstrable defects of development. The caecum and ascending colon were in their normal position, showing that the rotation of the intestine during foetal life has not been interfered with. We could, therefore, hardly expect any congenital deformities in the position of the sigmoid and descending colon.

Again, if a normal sigmoid whose blood vessels have been exposed, be drawn upward into the left hypochondrium and be so arranged as to occupy approximately the same position as the parts in specimen I, it will be found that the position of the vessels in the two cases is almost identical. Likewise the surface markings of the various segments did not differ in any respect from those of a normal colon.

The same factors which produce peritoneal fossae elsewhere are active here. The sigmoid having been fixed in its new position, its mesocolon became fused with the peritoneum of the posterior abdominal wall, and certain inequalities and irregularities in the apposed surfaces produced folds in the peritoneum. In this way, probably the projecting appendices epiploicae were the cause of the numerous fossae along the inner segment. The change of direction of the intestine likewise probably produced the same condition at the distal extremity of the outer segment. The small bursa-like spaces found between the two planes of arteries were probably produced from projecting pads of mesenteric fat.

Etiology: As to the cause of this displacement, there must have been in both cases some abdominal condition associated with considerable distention of the sigmoid and probably also of the transverse colon. This was accompanied by an inflammatory reaction at the point of adhesion. As the conditions had evidently existed for some time, and secondary changes had occurred, the determination of the factors is somewhat doubtful. There was no stricture or obstruction below the sigmoid which could account for its primary distention and consequent upward displacement. It was probably a case of "paralytic distention" following a peritonitis, for in addition to the local trouble in the left hypochondrium there was also an old process along the caecum and ascending colon. However, the possibility of the persistence of the enlarged sigmoid of infants must be borne in mind (1).

In Case I no scars were found in the mucosa of either the transverse colon or of the sigmoid. It is somewhat suggestive, however, that the attachment of the adhesions to the transverse colon corresponded exactly to the position of the appendices epiploicae.

These had evidently been inflamed and were probably the exciting cause. If the inflammatory process had involved all of the serous surface in this region, we would naturally expect a more general matting. As it is, there were other portions of intestine closely apposed and yet not adherent. Several cases of inflammation of the appendices epiploicae have been reported. Some involve the appendices alone, while others are caused by a herniation of the intestinal mucosa into the appendix. Retained faecal matter can easily set up an irritation in the pouch thus formed (1), (2), (3).

In Case II the attachment of the adhesions to the transverse colon occupied a much wider area, including the line of the appendices. Judging from their character, some thick and firm, others thin and almost transparent, the subject evidently had more than one attack of peritonitis. The numerous small ulcerations scattered along the mucosa of the large intestine were probably the cause of the inflammatory process in this case. One might expect to find more adhesions, but, as Treves (2), (4) remarks, "It is a conspicuous fact that in these cases no adhesions are usually found except between the two united segments of the colon."

Diverticula: While in neither of these cases can this arrangement of the intestine be looked upon as a diverticulum, yet they represent stages in the production of such and thus show some of the early determining factors. The formation of fistulous openings between adherent portions of the intestine and between other neighboring organs is quite common. The colon may communicate with the ileum, or with the bladder, or some portion of the intestine with the stomach. In the intestine the most frequent cause is idiopathic ulceration, but pressure atrophy may produce a similar result.

Although in Case I there was no indication of a beginning fistula, yet the walls of the anterior compartment were thin, and this condition would facilitate any atrophic or necrotic process. The tissue, however, between the two compartments was quite fatty in structure and, together with the bursa-like bodies present, would tend to distribute any increased pressure.

In the second case there were two large, recent, haemorrhagic ulcerations in the mucosa of the descending colon. They were evidently the result of a pressure necrosis, the exciting cause having been the scybalous masses in the colon. The floor of both these ulcers was in direct contact with a faecal mass, while their inflamed bases were firmly adherent to the tissue of the anterior compartment.

If the blood supply had been further interfered with or a more acute irritation had been set up, the tissue between the two lumina would sooner or later have broken down. The opening in the septum would have become enlarged, allowing the passage of faeces, and thus a real diverticulum would have been formed.

These scybali presuppose an obstacle to the passage of faecal matter in the large intestine, and this condition is partly accounted for by the bulbous enlargement at the distal extremity of the diverticulum. This enlargement was easily distended, and if it became filled with hardened faeces it acted as a valve, thus producing a retention in the descending colon.

Diverticula of the intestine are divided into two classes, the true and the false. True diverticula are those which possess all three coats, while the false consist only of the serosa and mucosa. These groups are further subdivided into the congenital and acquired. There are no reported cases of a congenital false diverticulum, all being acquired since birth. Fischer (5) and Mertens (6) both give a good bibliography covering this ground.

The largest number of true diverticula are congenital, and of these Meckel's forms the greatest proportion. Grawitz (7) describes a diverticulum of the ascending colon found in a right inguinal hernia. There had been an atresia of the mucous membrane, and the pressure of the faecal material behind the obstruction had caused the intestine to form a loop. The apposed surfaces of the loop had united and finally a perforation was produced. Hansemann (8), Neumann (9) and Nauwerck (10) report cases in which the congenital anomaly has been due to traction of an accessory pancreas at the head of the diverticulum. In Futterer's case (11)

there was an immense pouch occupying the position of the sigmoid. All layers were equally distended, and there was no demonstrable exciting cause such as stenosis. True acquired diverticula are more infrequent. Fiedler (12) reports such cases. Wallmann (13) describes nine true diverticula in a patient sixty-six years of age. They were distributed as follows:

- Colon ascendens—1.
- Colon transversum—3.
- Colon descendens—3.
- Sigmoid—2.

Norman Moore (14) reports a case of multiple diverticula of the small intestine with congenital stricture of the duodenum. It is into this latter group that the two anomalies described in the present paper would have been placed if the process had gone on to complete diverticular formations.

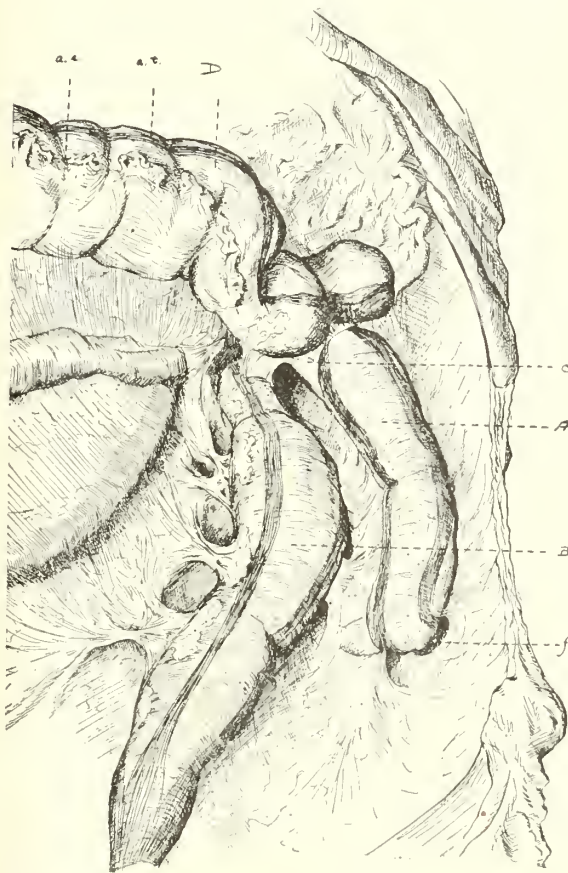


Figure showing Anomaly of Sigmoid Colon as found in Case I. A, Outer segment; B, Inner segment; C, Peritoneal adhesions; D, Transverse colon; a.e., Appendices epiploicae; a.t., Anterior taenia; f, Fossa produced by folds of peritoneum.

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- (2) Treves:—Intestinal Obstruction, p. 49.
- (3) Victor E. Martens:—Falsche Divertikel der Flexura sigmoidea und des Processus vermiformis. Mitt. Ausden Grenzgeb. der Med. Bd. 9, 1902, p. 743.
- (4) Treves:—Intestinal Obstruction, p. 125.
- (5) Fischer, Martin H.—False Diverticula of the Intestine. Journal of Experimental Medicine, Vol. V., 1901.
- (6) Mertens (op. cit.)
- (7) Grawitz (P.)—Ueber den Bildungs eines grossen Dickdarm divertikels. Archiv. f. Path. anat. LXVIII. 506-518.

- (8) Hansemann—Virchow's Archiv., 1896, CXLIV., p. 400.
 (9) Neumann (E.)—Arch. f. Heilk., 1870, XI., p. 200.
 (10) Nauwercck—Ziegler's Beitrage, 1893, XII., p. 28.
 (11) Fütterer (G.)—Archiv. f. Path. Anat., 1886, CVI., p. 555.
 (12) Fiedler—Denkschrift d. Gessells. f. Natur. u. Heilk. in Dresden, 1868.
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 (14) Norman Moore—Trans. of Path. Soc. London, Vol. 35, 1884, p. 202.

THE TREATMENT OF CERTAIN PHASES OF NEURASTHENIA.*

By DONALD RAYMUND SMITH, M.D., San Francisco.

It is my intention in this paper to outline for you the treatment to be pursued, which will often give relief, if not entirely cure, certain forms of neurasthenia which you must all meet often in your practice and which give you more or less trouble and concern. I refer to cases of acute acquired neurasthenia, which follows or occurs during convalescence from acute fevers, exanthema, surgical operations, confinement, lactation, overwork, worry, excessive or prolonged emotional states, unfortunate love affairs and many other causes too numerous to mention. I wish to exclude chronic or hereditary neurasthenia, the treatment of which is complicated in the extreme, requiring special conditions and surroundings and, above all else, special nursing. Under the latter head also come the forms of neurasthenia that are distinctly hypochondrical or which border upon melancholia.

There are three symptoms that stand out most prominently in acute acquired neurasthenia, namely: anorexia, insomnia and loss of weight. There are other symptoms forming an irregular symptom complex, hard to describe, but summed up in the one word, "nervousness" by the patient, and it is for the relief of these symptoms that the patient seeks aid. These symptoms vary in the same individual at different times and in different individuals. They are many and varied, the chief being palpitation of the heart, precordial sensations, some form of indigestion (usually hyperacidity), parasthesias of various parts of the body, chilliness, flashes of heat (local or general), these patients blush easily and are easily startled, transitory neuralgias, headaches, various disturbances of sight (functional in character), ringing in the ears, loss of ambition and interest with a state of general malaise. Some of these symptoms may have an organic basis, therefore a cause should be looked for in each instance and corrected if possible. Generally, however, they are all simply due to the general run-down condition and will clear up without special medication.

Thus we are brought face to face with the question, what symptoms do require our special attention? The answer resolves itself to this; we are to treat the three prominent symptoms first mentioned: Loss of sleep, loss of weight and loss of appetite.

After a careful and thorough examination, the patient should be told the exact condition that exists; that they are physically run down, from whatever

the cause in that particular case; that there is no organic disease present (if organic disease be found during the examination this statement should be guarded for the present at least); that their condition is perfectly curable and if they are willing to do as you say and follow out your line of treatment to the letter, you will do your best to perfect a cure of their case. Do not under any circumstances promise a cure, as you may meet with failure and lay yourself open to serious criticism. If confronted with the direct question, "Will you promise to cure me?" the best answer is that of S. Weir Mitchell, "I will do my best to cure you, only quacks promise to cure." Do not dismiss them lightly, but, convince them that their case has received the proper consideration from you and that each detail has been looked into and run to earth; for these patients are convinced that their case is one of importance, having rarely if ever occurred before, so demanding care and precision. On the other hand, do not enter into lengthy discussion of pathological changes, or prognosis within narrow limits, and do not advance theories in explanation of symptoms that the patient cannot understand or fully comprehend, as it becomes a fruitful field for speculation in a patient who is already, as a rule, too introspective; besides the patient's memory may be better than your own between visits. This is the preliminary or moral treatment that places both the patient and physician in the proper light, and puts the patient on a firm footing, from which recovery is most likely to occur. Next it is necessary to outline the treatment, in general, giving the reasons in plain language so the patient may know what to expect and consent to the same, thus forestalling future objections. All business, family and household matters should be put into shape before treatment is begun, in order to avoid a source of worry and to allow uninterrupted treatment.

The course of treatment then to be instituted is as follows: Put the patient to bed and do not allow them to get up for any purpose whatever. This must be insisted upon, for privileges in this respect will soon be abused, regardless of promises, and the entire object of treatment, absolute rest, will be defeated. The first few days under these circumstances will be irksome, and the patient should be warned in that respect and assured that they will soon become accustomed to the new conditions. It will be found that in a few days the patient will appreciate the benefit of the quiet and relaxation, either consciously or unconsciously, and become fully reconciled. This is best done away from home, either in a well-appointed hospital, hotel or private house, the object being to avoid contact with family or friends and assure absolute rest of mind as well as body. The mawkish sympathy of friends and the uncalled-for concern of the family will keep the patient in a constant emotional state and soon lead to self-sympathy, which is but a short step from hypochondriasis. If such is permitted you will soon have a chronic invalid on your visiting list of no use to themselves or society in general. However, if these conditions can be overcome, the treatment may

* Read before the Marin County Medical Society, December 1, 1906.

be carried out successfully in the home with the aid of a good nurse or sensible member of the family. These patients should not be permitted to read books, newspapers or letters; neither should they be permitted to write letters, for all these things do not permit of the mental quiet required, and things small in themselves, as an unfortunate remark, the report of an accident, suicide, murder, or death of a friend, relative or acquaintance will often undo in an instant what you have accomplished by weeks of treatment.

In order to overcome the atrophy of the muscular system, which must occur from the prolonged rest, two methods may be employed, either one of which will answer the purpose, but best employed together. First, the application of the faradic current, with the aid of a slow interruptor allowing one or two interruptions per second to the various muscle groups, will be found all that is necessary. This will require about twenty or thirty minutes' application a day. It has no other effect than to mechanically stimulate the muscles and so replace exercise. If the patient be intelligent, this fact should be explained to them to remove any doubt in their mind as to the psychic influence sought. Aside from this it takes up part of the day, relieving the monotony, and is something to look forward to, being at the same time amusing. If, however, this be used in conjunction with intelligent massage much more benefit will be derived. Massage will accomplish the same purpose and will probably do much more. Did time permit I would like to go more fully into the subject. What has been said of the faradic current can also be said of massage. One should be given in the morning and the other in the afternoon. Massage is restful, if properly given, and is often followed by an hour or two of sleep, a condition much to be desired and encouraged. Improper massage is, however, distinctly harmful and should never be employed. The application of massage requires from forty to sixty minutes. So much for rest, physical and mental.

How are we to overcome the insomnia? It is needless to enter into detail upon the horror and suffering of this terrible symptom, or call to your mind how soon its effects are seen and felt upon the well, to say nothing of the physically depressed person. This symptom must be overcome and at once. For the first few nights it is usually necessary to resort to drugs to obtain this result. Many so-called hypnotics are on the market, which it is not my intention to discuss here. I will mention two, and give their application in this connection. Trional given in fifteen to twenty grain doses one hour before sleep is desired, and repeated in one hour if necessary, will I think, give the best satisfaction. Sulfonal in the same or smaller doses, three or four hours before bedtime comes next. A combination of the two will often act better than one alone. In the case of sulfonal the second night will often be better than the first. Chloral is dangerous and opium and its alkaloids should never be used under any circumstances in this condition. If possible avoid all drugs, or drop them as soon as

possible and resort to hydrotherapy. Time will not permit me to go fully into this subject except to say that the full, prolonged, warm bath given one hour before you desire the patient to sleep will often answer the purpose. Better still is the wet pack continued as long as necessary, which may mean all night, care being taken not to expose any part of the body, except the face and head, to the air and to avoid evaporation by a sufficient thickness of blanket. Best of all is the drip sheet if properly given. Extreme care here should be exercised to produce a proper amount of reaction and avoid chill. One of these measures will invariably prove sufficient if properly given. I wish I could go more thoroughly into the subject of hydrotherapy with you. All measures for the relief of the insomnia may soon be discontinued, as it is usually the first symptom to show improvement. It is best, however, to continue treatment for a while to insure against a return, as a recurrence is always discouraging to the patient.

The Diet. This should be wholesome and abundant, at the same time simple and easily digested. It should consist mainly of milk and eggs as a base. The milk should be rich and fresh, and if thought advisable a little cream may be added. The eggs may be prepared in any manner except fried or hard boiled, but raw is best, either alone or beaten up in the milk. To this base any plain, easily digested food may be added. Butter, stale bread or toast, beef, chicken or any fowl, together with well-cooked vegetables, cereals and light desserts are indicated. Stimulants, as tea, coffee or alcohol are to be avoided, as are pastries and cakes. Chocolate and cocoa are permitted. Should the patient have any idiosyncrasys toward any particular form of food these must be respected in the early treatment and overcome later if thought best. Should the anorexia be marked at first the patient should be told to eat just as they would take medicine, not because they like it, but because they need it. The necessity of food should be impressed upon them. In the case of marked anorexia the diet should consist at first wholly of milk and eggs, as the greatest amount of nourishment can thus be concentrated. The desire for food will soon return, either by itself or by the aid of some bitter tonic. It is desirable to bring the diet up to the maximum amount the patient can tolerate without showing signs of digestive disturbance. There is usually some degree of constipation to overcome. This is best done by some mild, simple laxative, the nature of which is not known to the patient, thus overcoming groundless objections often entertained to some drugs. The ideal preparation in most cases is the pill aloin, belladonna and strychnin, with or without cascara; with this small doses of sodium phosphate or mild mineral water may be added. Here also massage will be found beneficial. If the constipation be kept well in hand and the hygiene of the mouth be looked after, large quantities of food may be ingested without causing any digestive disturbance whatever.

Medication. Aside from that already mentioned but little is needed. These patients demand medi-

cine as a rule, and will not be satisfied unless they are taking some. They can be humored in this by giving some good tonic, as elixir iron, quinin and strychnin, or any other preparation of known constituents. There will usually be found some degree of anemia among this class of patients and some form of iron or iron and arsenic, if you prefer, will be indicated. Blaud's pill, plain or arsenated, is usually ideal. Beyond this no medication will be needed, except what may be called forth by special conditions. Generally the less medicine the better, and if possible, overcome the symptoms by other means. These are the patients who, if they become chronic, prove such good customers of the patent medicine fraud. Under no circumstance should the patient know what medicine they are taking, as many of them have taken remedies without result and are necessarily prejudiced against them. If they ask, simply reply it is best for them not to know. When certain medicines are complained of as causing unpleasant symptoms, the change of vehicle or color will often give instant relief, if there is no actual basis for the complaint.

The physician should see these patients once a day only. More than once a day alarms the patient, and unless one visit is made they feel that they are neglected. They demand attention, and unless they are satisfied in this respect they soon lose confidence, and with the loss of confidence goes the possibility of a cure. During the first part of the visit let the patient talk, tell how they feel and ask any questions they may wish. Make a careful examination of the pulse, tongue, eyes, etc.; inquire as to sleep, appetite and general condition, then devote the remainder of the half hour to conversation of a general nature, thus implying without hurt, that there are other topics outside of medicine and symptoms. If you know a good story, tell it, if you can bring it in, especially if it illustrates a point you wish to impress. For obvious reasons don't tell the same story twice to the same patient. Never criticize the nurse or attendant to the patient, even if they are flagrantly in the wrong, as their services immediately become worthless and even harmful. Insist upon the room being kept neat and clean and compliment such a condition when you can. Have all the air and sun in the room possible. Question and leave instructions with the nurse in private to avoid any suspicion of incompetency in the mind of the patient. Be firm and at the same time reasonable. It is always best to have the consent of someone in authority to back up your treatment. The large majority of these patients are females, and it is with females that the largest amount of success will be met. Males do not respond well to treatment as a rule, they being too restless and unwilling to drop their business or occupation. A neurasthenic male as a rule must find his own cure.

How long are we to continue this treatment? The best guide to this is the weight. As a rule when the patient has returned to their normal weight a cure has been effected. There are cases, however, who, having gained sufficient weight, will still retain some of their former symptoms. They

usually disappear in time if the treatment be continued along the same lines. Again, there are others who feel perfectly well long before they have reached the proper weight. In such cases it is a good rule to follow not to let them up till the proper weight has been reached, for fear of a relapse. For the same reason it is best to keep the patient in bed for a week or two after the weight index has been reached. Generally speaking, six to ten weeks will be a sufficient length of time to perfect a cure. A much longer time will be found necessary in some cases.

The patient should be gotten up gradually. Ten minutes twice a day, increased ten minutes twice a day till four or five hours a day have been reached. After they are up it is best to send them away from home for a month or so, giving them a change of surroundings and climate. They should be instructed as to the prophylaxis of possible future attacks.

The treatment I have briefly outlined is the rest treatment of Dr. S. Weir Mitchell and the one so successfully employed by him and other physicians in Philadelphia. My only excuse for reviewing it is that I do not find it being employed on the Coast as it should be, and therefore does not receive the credit it deserves. Several cases of so-called "rest treatment" or "rest cure" have come to my notice which were a disappointment to the physician and the patient. Upon inquiry, I found that the things that should not have been done were done. In one instance the patient was allowed visitors daily, some days amounting to almost a reception. In another, there was some difficulty in obtaining the diet prescribed at the hour ordered, and the patient was kept fully informed of the fact, on every occasion, by her nurse till she felt that she was the cause of a great deal of trouble. In both of these cases the word rest became a farce. If the treatment be properly followed out, mother and daughter may occupy adjoining rooms in a hospital and neither one know of the other's presence in the same institution. I know that if the treatment be properly conducted it will give the most gratifying results in cases that at times seem hopeless. Rather never undertake this treatment, however, unless it can be done under the proper conditions, for failure will invariably result therefrom. Here I wish to make a suggestion, namely, that we take advantage of this climate and combine the rest and open air treatments for this form of neurasthenia. I believe that if this were done, our results would be even more gratifying and we would be able to report more permanent cures than is possible at present.

INFANTILE PARALYSIS.

The Role of Physician and Specialist in its Treatment.

By JAMES T. WATKINS, M. D., San Francisco.

Mr. President and Gentlemen: Three years ago I had the honor of directing the attention of the Medical Society of the State of California to a rational and efficient method of treating by operation the disabilities consequent upon infantile paralysis—

called from its originator, the periosteal implantation method of Lange.

After considering the older method of tendon-to-tendon grafting, I said: "It is probable that a very much smaller percentage of good results would be recorded were those cases discarded whose casual lesion was other than that of infantile paralysis, and it would be still further reduced were more time allowed to elapse between the operation and the report of the case. It has been the privilege of the writer to discuss and compare the results of the leading orthopedic specialists in this country and in Europe, and making allowances for individual optimism, there has seemed to be a fairly universal dissatisfaction with results obtained by the older methods."

By a gratifying coincidence, Dr. Royal Whitman, of New York, one month later, in an address before the American Orthopedic Association, said: "I am inclined to think, therefore, that those who have had considerable experience with the operation, and the opportunity to analyze later the results, will admit that tendon transplantation, in its original form at least, is on the whole, a disappointment."

A year later, Drs. Dane and Townsend, of Boston, presented, before the same association, the results, in tabular form, of an effort to trace and examine 50 consecutive cases of infantile paralysis which had been subjected to operation by different members of the staff of the Boston Children's Hospital. Of these 36 cases had been located. In 7 instances arthrodeses had been performed, with or without tendon graftings, and in 3 instances the astragalus had been removed. The results justified the operations; for a more or less serviceable foot resulted in each instance, whereas the 18 direct tendon-to-tendon grafts that had been performed had resulted in 18 complete failures.

Dr. Whitman considers that the "most frequent cause of failure is the mechanical disadvantage at which the transferred muscle must do its work." While directing attention to this cause, among others, I was constrained by the findings at several secondary operations to assert that the principal cause of failure in tendon-to-tendon grafts, lay in the subsequent stretching of the over-burdened tendon of the paralyzed muscle. An opinion which is certainly in keeping with the pathology of the disease.

Both these causes of failure are avoided by employing the method of Lange. Indeed, a further experience with this periosteal implantation of healthy tendons or of their silk prolongations, has served only to emphasize the excellence of the procedure and to bring us nearer to a precise determination of the principles which should govern its performance.

It is a common experience that, when the corrections of deformities and re-adjustments of muscular power, incident to the orthopedic problem presented by a case of infantile paralysis, have been made, and the limb has been used functionally, muscles that had apparently been paralyzed have been observed to re-acquire tone and function. Since this muscle regeneration is known to occur after opera-

tion in cases which presented deformities long, long subsequent to the initial attack—that is, in cases which had been neglected or which had had ineffectual treatment—it is pertinent to ask, might not the spread of the paralysis be appreciably limited, and the detail of the final operation simplified, were the latter preceded by an enlightened, thorough, and sufficiently protracted medical treatment?

The detail of such treatment is to be found only in scraps in text-books, despite the fact that it comes properly within the activities of the general practitioner. I shall not apologize therefore for spending five of my fifteen minutes in considering it at length.

It is doubtful whether treatment will check the inflammatory process in the cord. Cupping over the spine has been suggested and would seem a rational procedure. Medication at this stage consists in a brisk purgative, a sedative in the form of the bromide of potash, and full doses of ergot, 10 drops of the fluid extract every four hours for a child of one year.

A month or six weeks later—after the subsidence of the initial invasion—begin with your exercises. Almost no limb is completely paralyzed. Encourage the children to employ whatever strength they have in performing resistance exercises which you or the mother can devise with a cord, a pulley, and a bag of sand.

Be sure that at least twice a day each joint is passively exercised for a number of times, carrying it always to each limit of normal motion. If the child is old enough to comprehend you, direct it to move the foot in such a way as will necessitate contraction of the paralyzed muscles, and while it is exerting the appropriate cerebral impulse, yourself carry the member into the desired position to the limit of normal motion. This manœuvre should be repeated many times.

It is of the utmost importance that, both by day and by night, the limb should be maintained, at first in the middle of the arc of its activity, and later in slight overcorrection, the attitude in which the paralyzed muscles are relaxed. Wedging the sole of the shoe, with or without a bar up the side of the leg by day, and at night a simple sheath splint or a so-called night shoe, will usually prove sufficient to prevent contractures. This is absolutely necessary if the inherent contractility of the unopposed muscles, the weight of the limb and especially the weight of the bedclothes is to be successfully counteracted.

Galvanization properly applied and continued for a long time is the next most valuable aid. Since at a very early moment the muscles present the reaction of degeneration—that is, anode closure contraction is equal to or greater than cathode closure contraction—the cathode should be placed on the spine at the level of the lesion and the anode upon the affected muscles. The former should be a large, flat electrode. If the legs are affected, place this electrode over the last dorsal vertebra. If the arms are involved, place it over the cervical spine.

It is important to relax the affected muscles to the utmost by holding the limb in the overcorrected position during the two or three minutes, by the

clock, that the anode is being carried back and forth over the affected area. In order to accustom the child to it, begin with only the electrodes, and gradually increase the current a little each day. To be efficient, it is necessary to use comparatively strong currents and the treatment is painful. Therefore it cannot be given over to a parent or nurse. It is the physician's work. Finally a number of make and break interruptions are introduced to cause contractions in the affected muscles. Later when the response to faradism has returned, the galvanic electrodes should be reversed and the galvanic and faradic currents employed upon alternate days.

A vigorous massage should follow your electrical treatment. In my opinion, it is not necessary that one should be an expert masseur for these cases. It has only to be borne in mind that the object of treatment is to help empty the limb of its blood and tissue juices. The arterial system is well able to take care of itself; the massage augments the venous and lymph systems. Therefore, the soft parts should be well kneaded and vigorously stroked centripetally till the limb is red and warm. Do this gently at first, and then as the child gets accustomed to it, with increasing force. Teach the mother or attendant to do this massage, for it should be given twice daily.

Frequent baths, at a temperature of 98 degrees F. for 10 to 15 minutes, followed by rubbing with spirits of camphor or brandy, are said to be of value. And finally, at night, the limb may be wrapped, for an hour, in dry hot cloths, or the hot air oven may be used.

Only two drugs have appeared to be of any value during this stage: Arsenic (arsenious acid in doses of 1-40 gr.); and strychnia pushed to the limit of tolerance. It is best given with frequent intermissions—say missing every fifth day.

The conservative treatment may then be summarized as follows: Treatment during the acute stage, of doubtful benefit, consists in local counter-irritation, in antipyretic measures and drugs, and in full doses of ergot.

Treatment during subsequent stages, begun one month or six weeks after invasion, consists in exercise—active and passive,

In maintaining affected muscles in a state of relaxation,

In galvanization with reversed electrodes, and, later,

In alternate galvanization and faradization,

In massage twice daily,

In tepid baths and

In dry heat.

Persevered in for a year, this form of treatment, which was that advocated at the Sanitarium of Prof. Hoffa, at Wurzburg, when I was with him, may be expected to confine the consequences of the disease within the narrowest limits. Whatever paralysis remains, however, will be permanent. Protraction of conservative treatment will be time lost.

I shall, during my remaining five minutes, dis-

cuss the orthopedic problems presented by paralysis of the muscles of the leg; however, the principles which govern their treatment apply equally well elsewhere.

We recognize four essential motions of the foot on the leg—movements necessary to normal progression over uneven surfaces. They are in the order of importance, plantar flexion and dorsal flexion, which take place at the ankle-joint, and supination and pronation, which take place two-thirds in the subastragaloid and one-third in the midtarsal. These motions are performed through the agency of nine long muscles, several of which participate in each motion, and each of which participates in two or more motions. For example, the long extensor of the great toe is also a dorsal flexor and a supinator. While planning an operation not only the major and minor functions of the several muscles must be considered, but their anatomical locations and relative strengths as well. It is manifestly impossible to obtain a perfect foot by a readjustment of a remnant of the muscular power originally present. Something must remain deficient in the readjusted foot; and the deficiency will be proportional to the extent of the paralysis.

After overcorrecting whatever deformity may be present, our aim is to establish these four essential motions—first plantar flexion, then dorsal flexion, and finally the side-to-side motions, so that they can be made independently of one another. To do this we try to replace (not graft) the paralyzed muscles by muscles which are anatomically and functionally nearest to them, attaching each muscle or its silk prolongation directly to the periosteum of the foot at the point where it will obtain the best leverage for the performance of its new function. For antagonistic functions, muscles should be employed which have always been capable of contracting independently of one another. Occasionally all the muscles which participate in a certain motion are destroyed, as for instance, in paralysis of the muscles on the anterior aspect of the thigh. There remain at our disposal only a group of pure antagonists—in this case, the muscles which arise from the ischial tuberosity—with which to replace them.

There can be no question that a transplanted muscle can and will, in response to cerebral impulse, acquire a function antagonistic to its original function, and that the acquired function may in time become automatic; but, unless it was capable of independent action, in the group to which it originally belonged, it will, in its new location, contract only in response to those cerebral impulses which still set up contractions in the muscles of the original group.

The hamstrings, which have always contracted collectively, will continue to do so, no matter how you may modify their insertions.

Therefore in replacing the lost extensor power by transplanted hamstrings, it behooves us to employ all of this group, since to leave one behind would mean only that its pull must be overcome before extension at the knee could be accomplished—a needless dissipation of force.

Further, experience has shown that, except in an unexplained action of the outer half of the tibialis anticus, split-off portions of the leg muscles do not acquire independent functions. Therefore it is incumbent upon us to transplant entire muscles and not parts of them.

Still further, whatever motion obtains at a joint should be under voluntary control. Joint play which cannot be governed is certain to result in the production of a deformity. Where such a loose joint presents, it is best to perform an arthrodesis—to peel off the opposing articular cartilages—and to get an ankylosis of the joint in the most desirable position. The result, as in the seven cases referred to by Dane, will be a useful foot.

Since, when a deformed foot has been held in overcorrection long enough for the stretched muscles to contract, some of them do sometimes re-acquire their function, it would seem right, as has been pointed out by Hoffa, to hasten their regeneration by shortening their tendons. This procedure has a two-fold advantage. It hastens the regeneration of whatever muscles will regenerate, and removes or diminishes the tension put upon the freshly implanted muscles.

In closing, permit me to use a word of warning. Your patient's parents may have an idea that, on the removal, six weeks after the operation, of the plaster-of-paris dressings, no further protection will be needed, it will only remain for him to take up his bed and walk. If so, disabuse their minds of the delusion. Only gradually may a return to the unrestricted use of the foot be permitted; first, in a retentive splint, then in a shoe with either a wedged sole or an insole and uprights. And only little by little—an hour at a time—may he be weaned from them.

The principles of the operative treatment then may be summarized in this way:

1. Overcorrect deformity and maintain the overcorrection for a long time.
2. Replace paralyzed muscles, when possible, by muscles which are functionally and anatomically related to them.
3. For each of the four essential motions supply muscular substance which is capable of independent contraction.
4. Get rid by arthrodesis of whatever joint motion you cannot control.
5. Hasten regeneration or at least restoration of function in overstretched muscles and diminish the tension on the transplanted ones, by shortening the tendons of the former.
6. Protect the limb which has been operated upon, with appropriate apparatus, and only gradually permit its unassisted use.

Much of the excellence of your result will depend upon the thoroughness with which the muscles are trained in the exercise of their new functions. This again is a matter demanding the attention of the mother and of the family physician.

In no branch of medicine may the adage, "make haste slowly," be applied more often than to this grim specialty of orthopedics.

CALIFORNIA PURE FOOD COMMISSION NOTES.

By GEORGE H. KRESS, M. D., Los Angeles, Cal.

The recent Del Monte meeting of the Medical Society of the State of California provided for the organization of a State Pure Food Commission to be made up as follows:

I. *A Central Committee* to consist of five members to be appointed by the President of the State Medical Society. (Dr. George H. Evans, the President of the State Society, has appointed this Central Committee as follows: Dr. Fitch C. Mattison of Pasadena, Dr. Langley Porter of San Francisco, Dr. William Snow of Stanford, Dr. Stanley P. Black of Pasadena, and Dr. George H. Kress of Los Angeles.)

II. *An Advisory Committee* to consist of the chairman of the different Pure Food Committees of the County Medical Associations throughout the State of California. (These Pure Food Committees of the County Medical Associations are to be appointed by the presidents of such County Medical Associations, the general plan being that each main branch shall be represented by a committee of three, and that branches in outlying towns and cities are also to have their own representative committees of three. The chairmen of the committees of the outlying towns or cities are also to be members of the County Pure Food Committee of the whole.)

III. *An Associate Membership Committee* consisting of health officers or prominent medical or laymen, who are known to be especially interested in public health work. Such associate members will be appointed by the chairmen of the County Pure Food Committees or when deemed advisable by the chairman of the State Pure Food Commission. (The thought here is to bring to the aid of the commission and local committees all influence possible that would help to bring into being the things for which the commission is supposed to stand.)

It may be of interest to note that the plan of such a State Pure Food Commission arose in the work of a Pure Food Committee of the Pasadena Branch of the Los Angeles County Medical Association. This Pasadena Pure Food Committee sought to obtain for the city of Pasadena, pure milk and pure foods, and as the work progressed, it was seen that to obtain results, it would be necessary to have the co-operation of the Los Angeles authorities, and to that end the Los Angeles County Medical Association provided for the formation of such a Pure Food Committee. Its general make up is as follows:

From the Los Angeles City Branch were appointed the chairman of the entire committee, (Dr. L. M. Powers, the health officer of Los Angeles) and two other members, Dr. Titian Coffey and Dr. George H. Kress.

The Pasadena Branch appointed as its committee Dr. Stanley P. Black, chairman, and Dr. F. C. Mattison, J. H. McBride and E. B. Hoag.

The Pomona Branch appointed Dr. C. G. Toland, J. K. Swindt, and F. Garcelon.

The Long Beach Branch appointed Drs. A. C. Celbry, E. M. Freeman and J. M. Holden.

From this it is seen that the Los Angeles City Branch has its own particular committee, and each of the adjoining city and town branches has its own committee. The Pure Food Committee of the Los Angeles County Medical Association consists of three Los Angeles city members and the chairmen of the three branch (Pasadena, Pomona, Long Beach) committees.

This is the form of organization that is commended to the County Medical Associations throughout the State as one which will probably give as good results as any. In addition to members appointed as above outlined, associate members, (medical or laymen or women who are interested in public health work) can be appointed. The point to be remembered is this, that in order to obtain results in public health work it is necessary to bring to the aid of such committees the support of the public, and that means that the public must first be educated to see public health needs from the same standpoints as the Pure Food Committees. To bring about this education, it is necessary to secure the co-operation of prominent laymen and club men and women, so that the organizations with which they may be affiliated will give their co-operation and stand behind the Pure Food Commission and committees in their work.

* * *

The Pure Food Commission organized on the evening of May 21, 1907, in the offices of Dr. Kress in Los Angeles, the following members being present: Dr. Mattison of Pasadena, Dr. Snow of Stanford, Dr. Black of Pasadena and Dr. Kress of Los Angeles.

Dr. Mattison stated that the first order of business would be the election of a secretary. Dr. Kress was elected to that office. The evening was spent in a general discussion as to the aims of the commission and the best method of organization. The plan noted in a preceding paragraph was agreed upon as one which would probably lead to the best results. The chairman of the commission stated that the secretary of the State Medical Society had expressed a desire to have a column devoted to the work of the commission set aside in the *STATE JOURNAL*. The secretary of the commission was requested to maintain such a column.

* * *

An appeal is herewith made to the County Medical Associations in California that they take up at once the organization of County Pure Food Committees along the lines above noted. It will not be necessary for the county associations to pass on these matters, the presidents of the county societies, by virtue of the action of the State Society having the power to appoint such local Pure Food Committees without any further motion or action by the county societies. There is, of course, no objection to placing the matter before the county societies as a whole or before the councils. If, however, it is not convenient for the society as a whole or the council to

pass upon this matter at this time, the county presidents are requested to act without further notice, so that the central committee of the State Pure Food Commission may be able to get in touch at once with the men who are to carry on this work in the different counties of the State. The County Pure Food Committees should be appointed in June or July at the latest, if the work is to be in full swing by September or October.

* * *

In this issue of the *STATE JOURNAL* will appear a paper written by the secretary of this commission dealing with the pure milk question of Los Angeles and the attention of the County Pure Food Committees is requested to this article as it explains along what lines the Los Angeles Pure Food Committee worked in order to obtain a supply of pure milk for that city. The Pure Milk question is usually a pertinent one for all cities in the summer months and the Los Angeles method may be of interest elsewhere on this account.

The office of the State Pure Food Commission, to which all correspondence should be sent, will be that of Dr. Fitch Mattison in the Stowell Building, Pasadena, California. Correspondence addressed to any member of the commission, when sent to this address will reach the members for whom intended without delay.

The Central Committee of the State Pure Food Commission hopes the County Pure Food Committees will feel free to call upon it for information or aid at any and all times. The central committee intends to gather all the literature possible bearing on different phases of public health work, and from the ordinances and laws of other cities and States, to work out types of laws and regulations adapted to different California environments.

* * *

Dr. Snow, who is a member of the central committee and who has charge of the department of public health of Stanford University, will spend the next several months in the large cities of the East making a special study of public health activities, and it is his intention to send to the commission full reports of his investigations and data and ordinances relating to the work of the commission.

COUNTY SOCIETIES.

BUTTE COUNTY.

The monthly meeting of Butte County Medical Society was held in the parlors of the Hotel Colonia Saturday evening, May 11th, President B. Caldwell presiding.

The following members were present: Drs. B. Caldwell and O. C. Hawkins of Biggs, L. Q. and L. L. Thompson of Gridley, C. L. Browning, W. E. Dozier, N. T. Enloe and Ella F. Gatchell of Chico.

Drs. Dozier and Hawkins were admitted as members of the Society.

Dr. Osborne of Hamilton City applied for membership and was referred to the Board of Census.

A paper was read by Dr. N. T. Enloe on "The Use of Escharotics in the Treatment of Cutaneous Cancer." The discussion was opened by Dr. C. L. Browning and participated in by other members of

the Society. It was decided to hold the next meeting in Chico, June 8th.

After adjournment the members were treated by Dr. Caldwell to a fine collation which was much enjoyed.

ELLA F. GATCHELL, Secretary.

SANTA BARBARA COUNTY.

On May 6th a special meeting of the County Society was held at the Chamber of Commerce to give the profession and others interested an opportunity of meeting Mr. Samuel Hopkins Adams. A number of prominent citizens, members of the medical profession, district judge and others, attended the meeting, and the subject of medical frauds was discussed at considerable length and with great profit to all present.

We find these joint meetings of laymen with the members of our Society very instructive and very valuable.

WM. T. BARRY, Secretary.

SAN JOAQUIN COUNTY.

At the regular monthly meeting of the San Joaquin County Medical Society, held March 29, 1907, the society was entertained by Drs. Fitzgerald and Southworth. The following members were present: Drs. H. E. Southworth, W. W. Fitzgerald, I. B. Ladd, H. C. Petersen, H. Smyth, E. L. Blackmun, F. P. Clark, A. W. Hoisholt, M. C. Taylor, H. E. Sanderson, M. Smyth, J. D. Young, M. Goodnan, R. R. Hammond, R. B. Knight, J. D. Dameron, C. R. Harry, A. W. Morton and B. J. Powell. Drs. Welti, Mason and Walker as guests.

Dr. A. W. Morton of San Francisco addressed the society on "Appendicitis and Its Complications." After his address the society adjourned to the dining-room of the Imperial Hotel and during the banquet the subject of Dr. Morton's address was discussed. Dr. A. W. Hoisholt opened the discussion and was followed by most of the members present.

BARTON J. POWELL, Secretary.

SHASTA COUNTY.

The following is the report of the meeting of the Shasta County Medical Society, held April 20, 1907:

Shasta County Medical Society met in regular session April 20, 1907, at the City Hall, President R. F. Wallace in the chair. There were present Drs. Wallace, Bauter, White, Edgcomb, Taylor, Nutting, Tcbbe, Saylor and Weber. The minutes of the previous meeting were read and adopted.

The Secretary was instructed to have the following resolutions printed and a copy of the same sent to each member of the Society:

"Resolved, By Shasta County Medical Society, that the minimum fee for examinations for 'old line' life insurance companies be five dollars and for fraternal insurance companies and societies two dollars; and be it further

"Resolved, That any special arrangement for increase of fee to five dollars per examination made between medical examiner and any agent of \$3.00 companies be not accepted by this society.

"Whereas, it is the sense of this body that contract lodge and society practice is detrimental, degrading and humiliating to the medical profession, therefore be it

"Resolved, By Shasta County Medical Society, in regular meeting assembled that no member of this society be permitted to enter into contract relations with such societies, and be it further

"Resolved, That no physician in the employment

of such societies be eligible to membership in Shasta County Medical Society, and be it further

"Resolved, That no member of Shasta County Medical Society be permitted to consult with any physician following such a practice."

Dr. S. T. White read a very interesting paper on Pneumonia, which was followed by a lively discussion by all doctors present, after which the society adjourned to meet with Dr. Legge at McCloud, July 20, 1907.

PHIL H. WEBER, Secretary

PUBLICATIONS.

Operative Otolg, Surgical Pathology and Treatment of Diseases of the Ear. By Clarence John Blake, M. D., Professor of Otolg in Harvard University, and Henry Ottridge Reik, M. D., Associate in Ophthalmology and Otolg Johns Hopkins University. New York and London: D. Appleton & Company. 1906.

This is essentially a surgical treatise in which the individual experience of the writers is particularly emphasized. The pathology of the various conditions also receives careful consideration. An effort has been made to present the subject as simply as possible. The opening chapter is devoted to the surgical anatomy of the temporal bone and adnexia, and the succeeding one to aseptic technique. Neither of these chapters presents anything new. The portions in which diseases of the auricle, external auditory canal, tympanic membrane, and tympanum, are considered contain clear, brief and yet complete, descriptions of the principal points, especially pathological. The other sections on the technique employed in operations in middle ear and mastoid diseases are quite noteworthy for their lucidity. The book terminates with an appendix, which contains notes on various subjects, such as The Value of Early Paracentesis of the Tympanic Membrane in Acute Suppurative Otitis Media; The Algesimeter; The Localizing Symptoms of Brain Abscess, an article especially prepared by Dr. George Arthur Waterman, of Boston; Keiper's chart of the clinical symptoms of disease in the mastoid process and adjacent structures; the removal of the stapes for the relief of aural vertigo; and the surgical exploration of the labyrinth after the method of Julian Bourguet.

A. J. L.

A Text-Book Upon the Pathogenic Bacteria for Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist at the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia; Fellow of the College of Physicians of Philadelphia, etc. Fifth Edition. Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. 1906.

This is a new edition of a well known book and does not require any extended review. The general arrangement of previous editions is the same, and the results of recent investigations have been carefully considered in the revision of the text. The chapters upon infection and immunity have been entirely rewritten; although the subject of Opsonins is barely mentioned. We were unable to find any reference to the clinical uses of opsonic examinations. Altogether the volume is a very accurate and interesting presentation of bacteriology from the modern point of view.

A. J. L.

Second Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. 1906.

The second year's work of the Institute, like the first, has been carried on in temporary quarters under difficulties, but the organization has been perfected and the work has theretofore been more exact. During the last year 1,561 patients were treated, of which number 885 were new cases. The first portion of the report is largely concerned with sociological data and statistics based on autopsy findings. There is also an excellent article by Dr. Joseph Walsh on "The Kidneys in Tuberculosis." It is based on the pathological study of 59 cases of advanced pulmonary tuberculosis which came to autopsy at the Institute. The author concludes that many forms of nephritis are common, but the parenchymatous is the most frequent. This agrees with the observations of Coffin, Landouzy and Bernard, and others. With reference to the incidence of tubercles, the author states that he found them in 58% of his cases. This corresponds very closely with the figures of Heydn, who found them in 57%. Tubercle bacilli in the urine were frequently observed. In a series of 17 cases tubercle bacilli were demonstrated by animal inoculation in 82½% of the specimens. This is even a higher percentage than Flick and Walsh obtained several years ago (73.1-3%). From the clinical study of the renal condition in pulmonary tuberculosis the following conclusions are reached: Oedema is not the rule, although it is frequent; albumen is uncommon; casts and pus cells are found in 13.40% of the cases; the common clinical symptoms of nephritis are hyaline and granular casts and tubercle bacilli in the urine; less frequent symptoms are pain or ache in the lumbar regions, albumen in the urine, oedema, looseness of the bowels, which may or may not alternate with constipation; and still less frequent symptoms are unusual fatigue upon slight exertion, unaccountable dyspnoea and rapid pulse.

Another equally interesting paper has been written by Dr. Josephus T. Ullom on "The Liver in Tuberculosis." It is based on the pathological study of 37 cases. He found tubercles in about 81% of the specimens examined, which agrees with the results of previous investigations by Simmonds, but is considerably in excess of the results of Zehden and Rolleston, who were unable to demonstrate tubercles in more than 50% of their cases. So far as the manner in which the liver is infected is concerned, the author, taking the view of Sabourraud, Kotlar and Zehden, believes that the infection takes place through the blood, the tubercle bacilli being carried to the liver by the portal vein and the hepatic artery. Another noteworthy paper from the pen of Leonard Pearson is a review of recent investigations and observations upon the immunization of animals against tuberculosis.

A. J. L.

DEATH OF MRS. W. B. HARRINGTON.

It is not often that a medical publication, printed practically only for medical readers, feels called upon to chronicle the death of a layman, still less a lay woman. But it seems to me that it is right for us to do this in the case of the death of Mrs. W. B. Harrington, for all of that part of her life which might be called her public life, was closely associated with the medical profession in its public hospital work.

For thirty years Mrs. Harrington was President of the Board of Managers of the Children's Hospital, in San Francisco, and during that time the hospital grew from being a small institution in a

small apartment to its present proportions. With all of that growth Mrs. Harrington was identified and much of it was due to her initiative, and owed its completion to her ceaseless efforts. This means the more if we remember that this board of women knew nothing of managing hospitals when they began their work, and had not a clear concept of what an ideal hospital should be. It is true that they had the association of Dr. Charlotte Blake Brown in the work, and she could help at many important points with technical knowledge. Still the majority of the Board were lay women and they had to learn what they were working for and how to do the work, in the doing of it. To this Mrs. Harrington brought the ability to comprehend a project in its entirety and also in detail, and this, coupled with marked executive ability, were of material aid in her task. In addition she soon won, and always kept, the confidence of those to whom she had to look for financial support, for she always kept her promises, and she rarely failed to find sufficient funds for any development project she had in connection with the hospital.

The medical profession is interested chiefly, however, in the fact that this band of women, with Mrs. Harrington as their President and leader, founded and supported a hospital on high medical ideals, and they had the true conception of the relation which should exist between the Board of Managers and the attending staff of a hospital. Moreover, Mrs. Harrington always wished that the hospital work should not cease at the point of healing the sick. She knew that the hospital was the natural field for working out improvements in methods or the evolving of new methods, and she wished that these should be taught whenever that could be done without transgressing the personal rights of the patients.

This is shown most plainly in the hospital's avowed intention to particularly supply a place where women physicians and surgeons could receive hospital training after the completion of medical studies, and even to-day the hospital accepts, as internes, only women practitioners.

The medical profession in California, both the men and the women of it, is indebted to Mrs. Harrington and to her associates for this institution, which has been managed with singleness of purpose to meet the highest requirements of the patients, of the medical profession and of the people of California.

Apart from this, which was the *Magnum Opus* of her very energetic life, Mrs. Harrington was elected President of the San Francisco Red Cross Society in 1898 when the organization undertook relief work here and in the Philippines. She resigned this office to become President of the California Red Cross Society when it was organized and she remained in this office until 1905, when Congress took over the relief work. In both of these high public offices she showed the same breadth of view, unflagging zeal and humanitarianism that were well known in her hospital work.

Her death occurred in the Children's Hospital on the 13th of May, 1907.

UNIVERSITY OF CALIFORNIA HOSPITAL.

The University of California has established and opened a hospital in the building of the Medical Department in Parnassus Avenue in San Francisco. The Medical Department has felt the need of such an addition to its plant for a long time, and especially since, under the new charter of San Francisco, the services in the City and County Hospital have been increased by the admission of the College of Physicians and Surgeons and the Homeopathic and Eclectic Colleges to share the clinical material. As a result of this the amount of clinical material for each institution is very small, and the university suffered especially, as it had thorough courses in ward work in operation and needed many patients to make them satisfactory.

Long before the earthquake and fire of April, 1906, plans had been made and were being worked out for the raising of a large sum of money to equip and endow a hospital, either in the medical buildings or in an entire new building in a new site. The disaster of course upset all that had been accomplished. The faculty of the Medical Department, however, at once recommenced work, on lines necessarily modified, and has raised sufficient money to remodel a part of the medical building and to equip it as a hospital. The building, fortunately, was very easily changed over from laboratories to wards, and the many smaller rooms became naturally bath-rooms and nurse-rooms, and so on. The equipment is of the best, and while it is not all installed yet, what is there is perfectly satisfactory. At present there are accommodations for about thirty medical and surgical patients and twelve obstetric patients. This hospital and the Children's Hospital are the only hospitals of their type in San Francisco which have obstetric departments.

As this is to be a teaching hospital, it will be better to have it, as far as is practicable, a free hospital, and nowhere is such an institution needed more than it is in San Francisco, for here all the free beds in all the hospitals having free beds, have always been far below the average requirement in a large city, which is four free beds for every thousand of the population.

The total lack of endowment, however, forces the University to frankly open a hospital like the other hospitals in San Francisco, in which patients pay for their board, lodgings and nursing, and it is to that class of the people, which is very largely represented in San Francisco and in California, and which is only able to pay moderate hospital charges, that this hospital must at first look for its daily support.

The University will not be satisfied with this as a permanent arrangement, and every effort will be made to secure the necessary funds for the adequate endowment of the hospital, at the rate of \$10,000.00 for a free bed, so that the ideal institution may finally be established for perpetuity.

While the present number of beds is limited, because of the lack of enough money to buy and furnish more, the building has room for the quadrupling of the number, and when that limit is reached there is another large building, originally planned for the Law Department of the University, but never occupied by it, and at present filled by the Hearst Anthropological collections. This building can as easily be remodeled into a hospital as was the medical building, and the joint capacity of the two buildings will be nearly two hundred and fifty patients. The department has still another building for the housing of the pupil nurses in the training school for nurses which will shortly be established.

The opening of this hospital, even in this small way, marks a time in the ideas and ideals of the teaching of medicine and the care of the sick on the Pacific Coast. It is the definite establishment of a

hospital which is to be a primary teaching hospital, but in no hospital are the opportunities and rights of the sick and injured more jealously considered than in such an institution, so that the double object, healing the sick and teaching others how that is done, is the object and task set for itself by this department of the University.

The University confidently looks to the people of the whole Pacific Coast for support in this undertaking, not only to those who may come to the hospital for treatment, but even more to those who are able to give toward the endowment of the institution. Money given for that purpose will never be expended, but will become part of the foundation of the University, working for good as long as the present conditions in the world exist.

The hospital will be open for inspection on any day of the week.

NEW BOARD OF EXAMINERS ORGANIZED.

The Board of Medical Examiners met in San Francisco and organized as follows:

President—Dr. A. Lincoln Cothran of San Jose.

Vice-President—Dr. Park Dougall of Los Angeles.

Secretary—Dr. Chas. L. Tisdale of Alameda.

Associate Secretary—Dr. F. Dudley Tait of San Francisco.

Legal Advisor—William C. Tait of San Francisco.

Prosecuting Committee—Drs. Mattison, Dougall, Sisson, James, Pope and Barnard.

It was resolved that the Board co-operate with State Examining Boards and State Societies in giving publicity to revoked certificates and irregularities in colleges; and that a copy of this resolution be transmitted to each of the examining boards and California Colleges.

Prof. Harry Beal Torrey of Berkeley and Miss Gertrude Henderson of Los Angeles were re-appointed as official examiners for matriculants to the medical schools of this State.

F. DUDLEY TAIT.

1906 EXAMINATION.
CALIFORNIA COLLEGES.

	No. Passed.		Failed.		Failures.
University of California....	19	18	1	5	Per Ct.
Cooper Medical College....	32	31	1	3	Per Ct.
Coll. of P. & S., S. F.....	17x	14	3	17x	Per Ct.
Coll. of P. & S., L. A.....	40	4	0	00	Per Ct.
Hahnemann Med. College..	5	5	0	0	Per Ct.
Univ. Southern California..	26	20	6	231-3	Per Ct.
California Eclectic	4	1	3	75	Per Ct.
Oakland Col. Med. & Surg.	4	4	0	0	Per Ct.
	111	97	14	15	Per Ct.

xSecond exam. for 4; 3rd exam. for 2.
oSecond exam. for 3.

OUTSIDE COLLEGES.

	No. Passed.		Failed.		Failures.
Regular	101	78	23	23	Per Ct.
Homeopaths	8	6	2	25	Per Ct.
Eclectic	6	4	2	33	Per Ct.
	115	88	27	23½	Per Ct.

FOREIGN.

	No. Passed.		Failed.		Failures.
	11	8	3	28	Per Ct.

REJECTED DIPLOMAS.

College of P. & S., S. F.....	2
(The college course covering only two years in 1 case.)	
Hering Medical College	1
University of Baltimore	1
Memphis Hospital Medical College	1

School of Medicine.

PASSED.

School of Medicine.	Date of Graduation..	Anatomy.....	Bacteriology..	Chemistry.....	Mat. Med.....	Obstetrics.....	Pathology.....	Physiology....	Practice.....	Surgery.....	Percentage....
Cal. Sch. Med. Coll., S. F., Cal.....	5, 16, 06	88	87	72	81	72	75	69	89	77	78 8-9
Coll. of P. & S., S. F., Cal.....	5, 17, 06	90	86	77	86	83	76	91	79	84	83 5-9
Coll. of P. & S., S. F., Cal.....	12, 4, 06	98	78	76	84	77	75	88	92	82	83 1-3
Coll. of P. & S., S. F., Cal.....	5, 16, 06	91	73	82	89	75	72	75	79	75	79
Coll. of P. & S., S. F., Cal.....	3, 14, 07	95	70	83	85	78	61	60	93	75	77 7-9
Coll. of P. & S., S. F., Cal.....	5, 17, 06	95	79	80	78	75	60	61	79	75	75 7-9
Cooper Med. Coll., S. F., Cal.....	5, 9, 06	93	79	78	83	88	84	92	75	95	85 2-9
Univ. of Cal., S. F., Cal.....	1, 15, 07	90	81	77	80	81	98	75	77	95	83 7-9
Univ. of Cal., S. F., Cal.....	5, 16, 06	96	70	69	77	83	82	90	93	90	83 1-3
Univ. of So. Cal., L. A., Cal.....	6, 14, 06	93	87	72	77	75	70	84	83	78	79 8-9
1. Univ. of So. Cal., L. A., Cal.....	6, 13, 05	79	68	71	79	84	76	66	73	79	75
Cleveland Coll. of P. & S., O.....	5, 3, 05	93	75	78	75	74	77	81	86	78	79 2-3
Coll. of P. & S., Chicago, Ill.....	5, 26, 03	82	72	77	82	75	63	85	90	88	79 1-3
Coll. of P. & S., Keokuk, Iowa.....	2, 24, 85	94	84	72	83	82	68	75	76	70	78 2-9
2. Columbus Med. Coll., Ohio.....	3, —, 86	85	84	81	96	86	60	89	81	80	82 4-9
Denver & Gross Coll. of Med., Colo.....	4, 28, 03	98	77	80	87	77	76	87	90	80	83 5-9
Eclec. Med. Inst., Cincinnati, O.....	5, 12, 96	88	88	60	84	67	61	78	86	68	75 5-9
Hahnemann Med. Coll., Philadelphia, Pa.....	4, —, 93	78	69	72	91	71	68	63	89	74	75
Harvard Med. Coll., Mass.....	6, —, 86	87	60	74	81	68	77	65	82	90	76
Harvard Med. Coll., Mass.....	6, 29, 92	81	65	63	82	75	79	80	77	75	75 2-9
Long Island Hosp. Coll., N. Y.....	5, 14, 01	85	60	84	80	98	60	71	77	70	76 1-9
St. Bartholomew Hosp., London, Eng.....	4, —, 98	84	64	64	68	88	88	75	75	93	77 2-3
Univ. of Maryland.....	3, 22, 87	95	90	73	88	90	64	85	96	80	83 5-9
Univ. of Pennsylvania.....	—, —, 98	87	69	79	83	76	67	75	69	70	75
Wash. Univ. Med. Coll., Wash., D. C.....	5, 24, 06	85	78	78	72	65	82	60	78	89	76 1-3

FAILED.

Coll. of P. & S., S. F., Cal.....	5, 17, 06	78	66	60	66	77	58	50	66	73	66
Coll. of P. & S., S. F., Cal.....	5, 22, 05	82	44	53	59	25	45	46	65	50	52 1-9
Univ. of So. Cal., L. A., Cal.....	9, 5, 04	76	57	60	80	84	66	70	75	75	71 4-9
Univ. of So. Cal., L. A., Cal.....	6, 14, 06	78	66	61	80	53	73	50	75	75	67 8-9
Amer. Med. Coll., St. Louis, Mo.....	4, 22, 05	75	76	54	87	68	36	56	82	68	66 8-9
Baltimore Med. Coll., Md.....	5, 22, 06	77	48	66	81	75	72	52	72	70	67 1-9
Bellevue Hosp. Med. Coll., N. Y.....	3, 1, 80	58	24	66	75	77	61	20	34	70	53 8-9
Bennett Coll. of Ecl. M. & S., Ill.....	5, 12, 02	79	80	63	86	81	42	55	80	60	69 5-9
Cleveland Homo. Med. Coll., O.....	3, 22, 92	63	19	62	75	68	39	10	88	46	52 2-9
Hahnemann Med. Coll., Chicago, Ill.....	—, —, 95	92	31	72	75	79	58	54	81	68	67 7-9
Howard Univ. Med. Coll., Wash., D. C.....	3, 7, 87	83	57	74	79	70	75	65	61	70	70 4-9
Kansas City Med. Coll., Mo.....	3, 26, 96	68	68	70	77	75	69	48	70	75	68 8-9
Med. Chirurgical Coll., Pa.....	5, 28, 04	81	54	73	78	69	62	59	75	75	69 5-9
State Univ. of Iowa.....	3, 12, 90	77	53	66	79	67	68	41	62	70	64 7-9
Univ. & Bellevue Hosp. Med. Coll., N. Y.....	—, —, 04	81	41	69	67	76	70	60	76	75	67 2-9
Univ. of Athens, The, Greece.....	10, 9, 06	15	31	40	55	43	37	33	55	50	39 8-9
Univ. of Missouri.....	4, 27, 97	70	52	69	90	62	75	54	70	76	68 2-3
Univ. of Pennsylvania.....	6, 13, 06	—	—	—	—	—	26	50	79	90	27 2-9
Univ. of Rome, Italy.....	—, —, 05	84	71	68	71	65	56	65	88	94	73 2-9

- (Papers reviewed April 19, 1907.)
- (Combined with Starling Med. Coll.)

NEW LICENTIATES.

Allen, Chas. L., Univ. of Md.
 (1) Bartow, W. L., Long Island Hosp. Coll., N. Y.;
 Brown, J. Colville, Univ. So. Cal., L. A., Cal.
 Card, Wm. S., Denver & Gross Coll. of Med., Colo.;
 Chambers, Wilford E., Coll. of P. & S., S. F., Cal.
 Denman, Claire H., Hahnemann Med. Coll. of Phil., Pa.;
 Dunn, R. H., Coll. of P. & S., S. F., Cal.
 Harrison, Wm. H., Jr., Coll. of P. & S., S. F., Cal.;
 Herrington, E. L., Coll. of P. & S., S. F., Cal.;
 Hodgkins, Albert E., St. Bartholomew Hosp., London, Eng.
 Meharry, J. S., Univ. So. Cal., L. A., Cal.;
 Meracle,

Geo. A., Cal. Ecl. Med. Coll., S. F., Cal.;
 Moore, Will H., Coll. of P. & S., Ill.
 Nottage, Herbert P., Harvard Med. Coll., Mass.
 Ochsner, Rich. L., Univ. of Cal., S. F., Cal.;
 Orbison, Thos. J., Univ. of Pa.
 Parker, Harry Field, Wash. Univ. Med. Coll., Wash., D. C.
 Range, F. W., Eclec. Med. Inst., Cin., O.;
 Richards, J. F., Coll. of P. & S., S. F., Cal.
 Sobey, Gifford L., Univ. of Cal., S. F., Cal.;
 Spencer, Geo. A., Harvard Med. Coll., Mass.;
 Swearingen, A. Wm., Coll. of P. & S., Keokuk, Iowa.
 Tuckerman, Wm. C., Cleveland Coll. of P. & S., O.
 Vrooman, Lucy C., Cooper Med. Coll., S. F., Cal.
 (2) Wright, Thompson B., Columbus Med. Coll., Ohio.

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PHILIP MILLS JONES, M. D., Secretary and Editor

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

JULY, 1907.

No. 7

EDITORIAL NOTES.

A CORRECTION.

There is some particular lieutenant of the Evil One who is specially deputed to get into the type-setting machine, at times, and thus "make it interesting" for him who is unfortunate enough to have charge of things that are printed. This sigh is directly due to a very stupid mistake that occurred in one of the editorial notes last month, and which we now wish to correct. In commending to all County Medical Societies the distribution of the pamphlet reprints of Collier's articles on the Great American Fraud, collected in reprint form by the American Medical Association, we urged that every County Medical Society purchase a supply and see that copies were placed in the hands of influential laymen. These reprints are sold by the Association for 10 cents each, postage paid; or 50 for \$2.00, carriage extra. Unfortunately, the statement appeared last month that copies were for sale at \$2.00 each; quite a difference! Several members have written to the office asking whether we think county societies are made up of millionaires, and the criticism is warranted. It would be somewhat presumptuous to ask the societies to spend \$100.00 for this purpose, but \$2.00 is different. Any county society ought to be able to afford the small sum of \$2.00 for such an excellent purpose. Send to the A. M. A., 103 Dearborn avenue, Chicago, for 50 pamphlets of the Great American Fraud, and put them where they will do the most good.

The Pure Food Commission of the State Society, the creation of which was authorized at the last meeting, has organized and begun its work in a very energetic manner. The chairman is Dr. Fitch C. E. Mattison, and the secretary is Dr. George Kress, both of whom may be addressed at the Stowell Building, Pasadena, California. In the last issue of the JOURNAL we published an outline of the plan of this commission and of its proposed work. Certainly no more important task presents itself to the physician who is cognizant of the filthy and disgraceful condition of our milk supply, than this phase of the work of the Commission. It should receive the hearty support not alone of every County Medical Society, but of every member of the Society and of every physician in the state. The state spends many thousands of dollars in discovering and applying methods for killing fruit pests, but allows thousands of its children to be killed off by the uncontrolled greed of dairymen. We place the value of human life far below that of a few orange or peach trees, and our highly intelligent legislators express unbounded surprise when we, as medical men, go to them and ask that they enact some law for the protection of the lives or health of the citizens of the state. With the work of the Commission, however, must go other work, no less important; the work of educating the people to understand and know just what they are doing when they permit such things as a skimmed milk supply, or allow dairymen to furnish milk with a bacterial content of two or three million germs to the cubic centimeter. It is merely applying the principle of the Pure Food and Drugs Act; "Let the Label Tell." If two samples of milk were offered the purchaser, one labeled to contain 10,000 bacilli per cc, and the other 2,000,000, who, do you suppose, would buy the latter? But we can not label the milk; so the best thing to do is to prevent the sale of a dangerous output from a filthy dairy.

The Fifty-eighth Annual Meeting of the American Medical Association, at Atlantic City, has come and gone, and in many ways it was the most remarkable meeting ever held by the Association. The attendance was good—some 3,700—and the various programs could hardly be bettered. The House of Delegates met promptly on Monday morning, and during the session transacted more business in much less time than ever before. One of the most striking things about the whole meeting was the remarkable unanimity of action on everything essential. On one or two minor points there was division of opinion (as, for instance, whether the Association should officially recommend the re-establishment of the Army Canteen), but on every question of importance the house voted unanimously. One delegate—the same who, a couple of years ago, announced on the floor of the house that he had been called "the advance agent

of the proprietary manufacturers," and was not ashamed of it—asked some very foolish questions about details of the financial statement of the Trustees. His absurd questions were so fully answered by the Trustees, and in such a dignified manner, that he merely secured the ridicule of the entire house. This same individual publishes a medical (?) journal in which he took occasion to attack the Association, immediately before the meeting, and joined the chorus of "published-for-profit" medical (?) journals in howling about dissension in the Association. No better answer could have been made to these various nostrum-inspired howlers than the silent but unanimous action of the House of Delegates on every question that arose—including a vote of absolute confidence in the Trustees and officers of the Association. Elsewhere we publish an abstract of the minutes of the House of Delegates, and we bespeak your careful attention to it. Your Association has come to be an organization of which you may well be proud, and in its work we should each and every one of us take a deep interest. The only people who see trouble ahead are the publishers of medical (?) journals who dislike to see the rapid progress of the war against nasty nostrums, and the eventual cutting off of their own nasty income from advertising them. We commend this thought to *American Medicine*, supposedly "founded, owned and controlled by the medical profession of America."

The election of officers for the year took place immediately after the reading of the minutes at the afternoon session of Thursday.

THE A. M. A. OFFICERS. The President-elect, who will take charge of the Association next year, is Dr. H. L. Burrell, of Boston, Mass. He is an enthusiastic member of the Association and a splendid organizer. He was chairman of the Committee of Arrangements for the Boston meeting, and did excellent work. The Vice-Presidents elected are as follows: First, Edwin Walker, Indiana; Second, Hiram R. Burton, Delaware; Third, George W. Crile, Ohio; Fourth, W. B. Stewart, New Jersey; Secretary, George H. Simmons, Chicago; Treasurer, Frank Billings, Chicago. The three Trustees whose terms expired this year were T. J. Happell, Tennessee; Philip Marvel, New Jersey, and W. W. Grant, Colorado. They were all re-elected. The other Trustees, whose terms expire in 1908 and 1909, are E. E. Montgomery, Pennsylvania; H. L. E. Johnson, D. C.; A. L. Wright, Iowa; Wm. H. Welch, Maryland; Miles F. Porter, Indiana, and M. L. Harris, Illinois. But slight changes were made in the standing committees. On the Council on Medical Education, J. R. Holland replaces Charles H. Frazier; on the Committee on Organization, Philip Mills Jones replaces Duncan Eve; on the Committee on Medical Legislation, C. S. Bacon replaces W. L. Rodman.

The Hall of Commercial Exhibits at the last A. M. A. meeting was a revelation. Our members will recall the fact that their **HALL OF EXHIBITS.** JOURNAL repeatedly urged upon the Association, some three or four years ago, the taking over of all matters pertaining to the annual meetings, the hiring of meeting places, control of the exhibit hall, etc., etc. This was finally brought about through an amendment to the constitution, and the last session was the first under the new order of things. The Trustees very wisely ruled that no medicinal preparations should be allowed space in the hall of exhibits, except such as had been approved by the Council on Pharmacy and Chemistry; nothing less than this would have been consistent. Furthermore, it ruled—and also wisely—that no journals should be allowed space if they contained advertisements of articles not approved by the Council on Pharmacy and Chemistry. The result was everything that could be desired. The self-respecting eye was not offended at every turn by the flaunting and brazen exhibit of some antiphlogistine or other nostrum. There seemed to be about as many exhibitors as ever, but they were mostly of the publishing-house order, or instrument manufacturers, etc. One excellent exhibit was of official preparations, properly compounded and exhibited in a decent and dignified manner. We venture the opinion that the Hall of Commercial Exhibits was, for the first time in the history of the Association, a decent, clean, instructive and valuable part of the Association's meeting. It was a pleasure to go about and study the exhibits without fear of running into some eye-sore and being tackled by the agent of some disgraceful, worthless nostrum. The Association is making history.

When the Trustees announced that no medical journal which advertised preparations that had not been approved by the Council **BARRED-OUT** on Pharmacy and Chemistry, **JOURNALS.** would be admitted to the Hall of Exhibits, it did a very wise thing. But at the same time it called forth a storm of wild protest from the "published-for-profit" medical (?) journals of the class we know so well. The proceeding was "high-handed"; it was "preposterous"; it was "Czar-like"; it was encroaching upon the rights of free-born American citizens (!); it was almost every sort of crime that you can imagine. As a passing thought, one can not but reflect upon the tremendous interest which a lot of outside people seem to take in the affairs of the Association, and how they howl when our Association does something for the general good of the medical profession that injures the fraudulent nostrum business—and incidentally the advertising business of the "published-for-profit" medical (?) journals. It is also a nice and comfortable thought, in passing, to contrast the terrible howls of these medical (?) journals, and their awful prognostications of impending doom for the Association, with the highly intelligent and harmonious conduct of

the business affairs of the Association by its House of Delegates. The whole animal kingdom offers but one example of intelligence so benighted as that which seems to be governing the majority of the medical (?) press of this country; one can but think of the cute little ostrich, with his dainty little head nicely buried in the sand. The hand-writing is on the wall for him to read who will; so long as there remains even one medical journal in this country which will freely and fearlessly tell the truth and flay the hide off the dishonest manufacturer of dishonest nostrums, so long will there be betterment and so much the sooner will come the day when medical men will refuse to be buncoed and refuse to contribute to the support of medical (?) journals which exist for revenue first and for medical progress and decency afterward—if they have time and space. A few there are who seem to appreciate this fact and to see the trend of medical movement of the day, and they are beginning to side with the Association and its *Journal*, and with some of the State Journals, in the publishing of the truth and the dropping out of fraudulent, worthless or dangerous nostrum advertisements. In passing, one must commend the *Medical World*, of Philadelphia, for the manner in which it has taken the right side in our present "gentle and joyous contest." As the frauds are exposed by the *Journal A. M. A.*, the expose is reprinted in the *Medical World* and the advertisements are dropped; if some of the official publications of state medical organizations would do half as much, it would be a mighty good thing. And by-the-by, it is an unpleasant truth, but none the less a truth, that, until very recently, one of the State Journals enjoyed the peculiar distinction of being the only journal published which contained the advertisement of every one of the frauds which had been specifically unmasked by the *Journal A. M. A.*

At the present time there are a few things advertised in your JOURNAL which have not been approved by the Council. They were accepted before there was any Council to give us aid and assistance in discriminating against advertisers who should not receive recognition. We have desired to give all of these ample opportunity to submit their preparations to the Council and to conform to its rules—rules which are carefully framed and, if anything, are not sufficiently rigid to exclude all the things which should be excluded; but this will correct itself in the course of time. Most of the things that you will find in our advertising pages and which have not been approved by the Council, make greatly exaggerated statements about themselves; some contain on the label of the original package a list of diseases for which the remedy is to be used, and hence are objectionable for the reason that they tend to stimulate self-medication, a dangerous practice. So far as we are aware, there is no definitely known fake or fraudulent nostrum now being advertised by your JOURNAL; as

such have been found out, they have been thrown out of the advertising pages. Please, just remember a few things: Your JOURNAL was the first in this country that made a really honest and consistent effort to exclude advertisements of fraudulent nostrums; occasionally the Publication Committee was fooled, but the fraud was thrown out as soon as discovered. (As witness uriseptin, vin Mariani—which claimed to contain no cocaine—Tyree's powder, etc.) Since the Council was formed and got to work, we have accepted the advertisement of no preparation which has not been approved by that body, though we have been offered many pages of such advertising. We do not desire to be hasty or unjust, and consequently we have endeavored to give all of our advertisers every opportunity and all the time possible, to comply with the just demands of the Council. We think two years is plenty of time—especially in this rapid century—and by the first of next year they will all have had that much time, and then, if they have not been approved by the Council, we will part company. That the rules of the Council are just and moderate, we believe any intelligent physician will admit after giving the matter a little careful thought. If you doubt it, just look at the label on a bottle of glyco-thymoline, for instance, and then honestly say whether a thing of that kind should be permitted. The label is evidently intended to appeal directly to the public and to teach them to believe that a simple alkaline wash will perform wonderful cures in all sorts of impossible conditions. Is that right?

One very pleasant and exceedingly profitable evening was spent, at Atlantic City, at a meeting, about the dinner table, of some eighteen or twenty secretaries of state medical societies. The idea was certainly an excellent one, and steps have been taken to make such a gathering a permanent feature of the meetings of the American Medical Association. Each state should send its secretary to these meetings, and, if possible, he should go as a delegate and thus officially represent his state in the national organization. At any rate, he should be there and attend a meeting of state society secretaries. Probably no person present at the meeting at Atlantic City left the room without having acquired some very good ideas and suggestions from his fellows, and there is little doubt that all the states represented at that meeting will benefit from the suggestions of others and the statements as to successful work, possibly done better in some other state than at home. The spirit of the present organization of the medical profession is unique. It is not the labor union spirit of merely personal and material benefit; it is a spirit of personal uplifting, of personal education, of personal improvement in all those things which go to make a man a better physician and a better guardian of the sick in his charge. In so far even as our activities have been along the line of medical economics and have dealt

with contract practice, lodge work, insurance fees, etc., the movement has been for the general public betterment more than for the betterment of the individual. A poorly supported doctor is generally one who can not keep up to date in mental equipment or in instrumental armamentarium, and the patients of that man will suffer. If all can be brought into closer harmony, and the public once shown that a well supported medical profession is a good investment from the purely selfish and commercial side, there will be mighty little talk of "labor union" methods—except on the part of those within the profession to whose interest it is that physicians shall remain ignorant and shall really think as little as possible. And this very work of organization for mental betterment can be and will be tremendously helped by the annual meeting together of the secretaries of state societies. We consider it one of the most important movements that has originated within a number of years.

In the March issue of your JOURNAL appeared the following:

"Any remedial preparation
SHALL IT BE which you do not find in the
A BOYCOTT? list of New and Non-Official
Remedies as issued by the
Council (on Pharmacy and Chemistry) is one
to look upon with suspicion; it may be a legitimate product, but the chances are that it is not, or that the proprietors have uttered exaggerated statements as to its value."

My! my! But that does seem to have stirred up a lot of people! In the JOURNAL office there is a stack of medical (?) journals nearly a foot high, each of which contains some editorial spasm over this pronouncement. And the choice language! Really, the adjectives used are enough to make any man with a modest vocabulary turn green—or pink—with envy. Yet that is just exactly what we said and exactly what we meant, and exactly what we intend to say—and to mean—again. Furthermore, it is exactly what a very large number of medical men are beginning to see is the truth, and when once the general run of physicians see what the truth really is, Heaven help the medical (?) journals that try to fight against it. The nostrum maker and the medical (?) journals which he controls, have fooled all physicians part of the time; they may continue to fool some physicians all the time, but they can not continue to fool all physicians all the time, for some there are who are waking up to the foolish position into which they have been fooled by the "secret proprietary" man and his all too willing tool, the medical (?) journal. Do not let all the words which may be used to befog the issue, disturb you; do not let all the lovely adjectives that may be applied to your JOURNAL or its editor, disturb your peace of mind; it—your JOURNAL—has been pretty well guided by your Publication Committee, and he—your editor—has developed such a continuous coating of callous places that a few words really do not create any unpleasant sensations. Just remember that the Coun-

cil is trying to secure an honest statement as to composition, so that you may know exactly what you are giving your patient; and truthful statements regarding the merits of various preparations, so that you may not be fooled all the time. Is it not worth while to give the Council your support when such simple things as truth and honesty are the results striven for?

ISCHEMIC PARALYSIS AND CONTRACTURE, WITH A REPORT OF A CASE TREATED BY BONE SHORTENING.*

By THOMAS W. HUNTINGTON, M. D., San Francisco.

The purpose of this paper is to describe and emphasize the importance of a lesion or associated lesions which are a consequence of injuries of the arm and forearm—the condition known as "Volkmann's Contracture of the Hand and Fingers" or "Ischemic Muscular Atrophy," "Contractures and Paralysis."

About thirty years ago Volkmann described this deformity and gave it its true place in surgical literature from the standpoint of causation and seriousness. Prior to this time it had been observed that hopeless deformity and loss of function now and then followed what seemed to be comparatively trivial injuries, such as simple fractures of one or both bones of the forearm, fractures and dislocations at the elbow, and fractures of the shaft of the humerus. The exact relation between such injuries and the consequent deformity and loss of function seems not to have been traced before Volkmann's time. In later years, from time to time, attention has been called to this class of lesions by various authors, although in few of our text-books on surgery is there anything more than a passing allusion to the subject. In his classical Hunterian lecture upon deformities of fingers and toes, William Anderson, in 1891, after recounting the causes of this condition, says: "It is a reproach to surgery." When it is considered that in all or nearly all the recorded cases the fault is unmistakably traceable to vicious adjustment of splints and over-tight, long-continued bandaging, the force of Anderson's remark is obvious.

Ischemic contracture and paralysis resulting in the so-called Main-de-Griffe, as has already been intimated, follows usually fractures of the forearm in children and young adults. In a few cases ischemic lesions have resulted from embolism, thrombosis, traumatism affecting vessels or nerves and exposure to extreme cold. Were the deformity and its usual cause better understood by the general profession, it is probable that the occurrence of such cases would be extremely rare and would never be chargeable to the dereliction of the attendant. The deformity follows in most cases lines which are typical and the observation of a single case renders the detection of others well-nigh certain.

The significant features may be enumerated somewhat as follows: Usually one or more scars of old pressure sores are observed on either side of the fore-

* Read before the California Academy of Medicine.



FIG. 1.

Skiagram showing absence of deformity or lines of fracture.



FIG. 2.

Cicatrix of pressure sore and preoperative status of hand.



FIG. 3.

Same as Fig. 2, different position.

arm. The bellies of the flexor and extensor tendons of the forearm are appreciably atrophied. On palpation of the tendons there is conveyed to the examining finger the impression that they are interwoven, adherent and matted together. The contracture seems chiefly to be manifest in the flexors of the forearm, and as a consequence the carpus and meta-carpus are thrown into a position of palmar flexion. At the same time the fingers are bent upon themselves, forming hooks. This sharp bending of the fingers is markedly increased whenever force is exerted upon the hand in such a way as to extend it upon the forearm. In very young subjects, upon application of sufficient force, the tendons can be stretched to a degree that will admit of full extension of the hand and fingers, but immediately



FIG. 4.

Postoperative status after 6 months. Full voluntary extension.

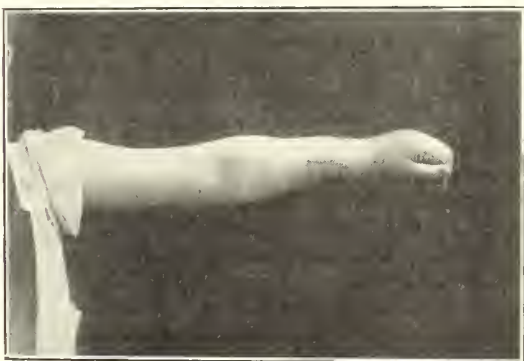


FIG. 5.

Same, fingers in voluntary flexion.

upon withdrawal of the traction force the deformity recurs. If it were attempted after forcible correction to maintain the hand in its proper relation, the pressure required to accomplish this object would, of course, work to the further detriment of the member. The nerve lesions presented by these cases are variable. Any one or all of the three principal nerves which enter into the mechanism of the forearm and hand may be temporarily or permanently, partially or wholly, disabled. As a rule not more than one of these nerves is hopelessly involved. Powers of Denver, in a personal letter referring to a case recently reported before the American Medical Association in 1906, states that histological examination of the forearm muscles showed that muscular tissue had undergone degenerative change and was almost replaced by fibroid tissue. Electrical irritability of the muscles is usually maintained, although in response to the electrode the function of individual muscles is markedly deficient. The minimum time required for the production of this deformity by over-snug bandaging is stated by several observers to be very brief. It is said that even so short a duration as six hours may be productive of a condition which has been shown by all authorities to present one of the most formidable problems in the role of corrective surgery.

By experimentation upon lower animals it has been found that a hopeless condition analagous to

this may be produced artificially upon deprivation of the limb of its nutrition over a period of two or three hours. In estimating the importance of a lesion one need do no more than to review carefully the literature of the subject.

In the paper by Powers* above alluded to he has carefully collected and tabulated fifty-three cases, including his own, of ischemic paralysis and contracture. Of these twenty-two are recorded as non-operative, and thirty were subjected to operation. Of the former, two cases are reported as having recovered satisfactorily. Of the latter, three showed excellent results as regards both deformity and function. The results in other cases were widely variable from "fairly satisfactory" to "very bad." In other words, a return to the normal is the rare exception. In a fair proportion of cases a tolerable result has been obtained, but in a very considerable number the amelioration has been scarcely more than inconsiderate.

The methods of treatment may be classified as follows: (1) Massage and electricity associated with forcible extension, (2) tendon lengthening, and (3) excision of isometric sections of the ulna and radius.

It is not improbable that, in the aggregate, results obtained by long-continued resort to electricity, massage and passive motion, especially in the younger cases, would compare favorably with that of any other plan. But before deciding to accept this as our ultimatum one must compute accurately the enormous expenditure of time and patience which is necessary in the fulfillment of this plan. No untrained person can be trusted to carry out its details. The simple matter of expense would be such as in most cases would act as a positive deterrent. Tendon lengthening has been the operative measure which has found the approval of practically all surgical authorities.

In the April, 1906, number of the *Annals of Surgery*, Ferguson of Chicago, after a careful discussion of this lesion, reports one finished case, three years having elapsed since the operation.

The method pursued by him was that of an extensive dissection of the flexor muscles of the forearm, separation of the adhesions and isolation of individual tendons, with tendon lengthening in all the structures engaged in the process. After completion of the operation he poured into the interstices of the wound a liberal amount of sterilized olive oil. The skin wound was then carefully closed. Ferguson's result in this particular case appears to have been highly satisfactory, although there was not by any means complete restoration of function. Other authorities have proceeded along the same lines, with less thoroughness and with widely varying results. A very serious objection to this procedure is perfectly obvious and hinges upon the difficulty that one encounters in the preservation of absolute asepticity in the operative wound. It must be remembered that in the correction of the condition by tendon elongation a

half dozen or more tendons will of necessity be dealt with.

In each case one or more sutures must be used in uniting the attenuated tendon ends. Infection in a wound so complex will result in the absolute undoing of the entire undertaking, and the patient's final condition will be not less deplorable than the original one. Furthermore, it is to be borne in mind that with every possible safeguard infections do occur, and I believe that this possibility should encourage the surgeon to seek a method fraught with less danger.

In 1902, in an article published in the *London Lancet*, vol. 1, p. 78, Dudgeon reports fifteen cases collected from various sources. In the fifth case of his series he states that bone shortening was adopted, followed by fibrous instead of bony union, and the result is stated to have been unsatisfactory. In vol. 1 of the *Boston Medical and Surgical Journal*, in 1900, Bernays of St. Louis, after commenting upon the seriousness of this deformity, suggests the propriety of a resort to isometric bone shortening as probably offering the best possible result; but at that time he had had no experience with the method. Ferguson also, in the closing lines of his recent article, endorses the plan and states that should another case present itself he will adopt this plan.

As opposed to the measure, it is to be said that it does not afford an opportunity for direct attack upon adhesions between tendons and muscles. It is true that through a separate incision a procedure may be inaugurated which will overcome this objection, but in my opinion that step should be deferred until incision wounds have healed and bony union secured. The few weeks' delay thereby entailed will enable a correct estimate to be placed upon the efficiency of the original procedure. The possibility of delayed union or fibrous union must in this relation be taken into account. Lowered vitality and nutrition already impaired may with experience be found to present a prohibitive barrier to this method.

I am able to report the following recent case which is of value at this time chiefly as an illustration of the original condition and the immediate results of bone shortening which was the measure of relief selected:

On the 1st of May, 1906, a healthy boy of five years was alleged by his physician to have sustained a fracture of both bones of the forearm at or near the middle. As shown by the accompanying radiogram, it seems probable that the fracture was at most not more than a green-stick affair. The arm was dressed by the family physician and two board splints were applied antero-posteriorly, extending from above the elbow to the tips of the fingers. As reported to me by the parents, the splints were continued in place without change for exactly thirty days. On their removal there were noticed two deep eschars; one over the dorsal and the other over the palmar surface of the forearm. At this time a full plaster-of-paris circular splint was applied and this was not removed until forty-two

* *Journal American Medical Association*, March 2, 1907.

days later. It was removed by another physician who was in no sense responsible for the early treatment of the case. At that time, on the 12th of July, the characteristic deformity was clearly established. The eschars on both sides of the forearm were still in place and remained attached until I saw the boy on the 8th day of September. The scar on the palmar surface of the forearm is shown in photographs 2 and 3. Recognizing the situation, I advised the parents of its seriousness and only entered upon treatment of the case after having explained to them the probability of an unsatisfactory result.

I determined to resort to isometric bone shortening. The child was kept for a week at a hospital prior to operation, during which period the encrusted eschars were removed and the underlying tissue rendered aseptic.

On the 14th day of September, 1906, through two incisions on the ulnar and radial borders of the forearm, I resected one and one-eighth inches of both bones at about the upper part of the lower thirds. On placing the sawn surfaces in apposition I found that I could easily overextend the hand and fingers. The operation was finished by wiring both bones and careful closure of the wounds. The hand and arm were surrounded by absorbent cotton and fixed rather loosely upon a posterior pasteboard splint. At the first dressing it was found that there was no disposition of the deformity to re-establish itself, nor has there been any at any time since. Operative wounds closed ideally and bony union was complete at the end of two months.

March 15, 1907—Final report: For about two months the patient has been under the care of Dr. C. M. Cooper, who has applied electricity and massage daily. It was found at first that the electric reaction in most of the forearm muscles was present, though but feebly manifest. This, however, improved to a marked degree, and with it there has been a corresponding improvement in the finger and hand movements. It has been found also that the patient's tolerance for both electricity and massage greatly increased. There has been noted substantial improvement of both flexors and extensors, though the power of flexion preponderates abnormally over that of extension.

I think it is fair to say that at the present time the range of motion in the hand and fingers is fully if not more than one-half the normal. He is able to pick up small objects and retain them within his grasp. Power of rotation is also markedly improved and is now probably two-thirds the normal. Taking into account the patient's age, and the improvement which has occurred since treatment was begun, I regard the ultimate prognosis as altogether favorable from the functional standpoint.

THE AMPLITUDE OF ACCOMMODATION AT DIFFERENT PERIODS OF LIFE, AND ITS RELATIONS TO EYE-STRAIN.*

By EDWARD JACKSON, M. D., Denver, Colo.

This subject is not brought before you as one that

is wholly new, but as one upon which more extended study may give us new ideas of practical importance. From the time that Donders named his great treatise, "The Accommodation and Refraction of the Eye," down to last year when Teacher Collins urged the intimate connection between the development of the power of accommodation and the general state of the ocular refraction, the importance of the dynamic factor in refraction has been appreciated by every thoughtful scientific student of the subject.

It was with surprise that I read a little more than a year ago Dr. George M. Gould's statement: "Many of our puzzling nonsuccesses are due to failure to recognize insufficient or parietic accommodation, or premature presbyopia. The books do not know of it, and the lecturers do not speak of it." From my first taking up ophthalmic practice it has been a part of my routine examination to measure the amplitude of accommodation. I doubt if I have ever prescribed glasses to a private patient under 55 years of age without doing this; and even in dispensary cases this routine has usually been followed.

Our notions of "eye-strain" are chiefly concerned with strain of accommodation, and strain in maintaining binocular fusion. And it must be admitted that our ideas connected with strain of accommodation are far better developed and more definite than those connected with strain to overcome imbalance of the extra-ocular muscles. Astigmatism and hyperopia attain their enormous practical importance through the strain of accommodation that they entail. To ignore the dynamic factor in refraction was impossible. To assume that it was constant, or that it was an easily calculable function of the patient's age, could only be done by closing our eyes to many obvious or easily ascertainable facts. Still, constantly as our attention has been given to this subject, much remains to be learned before we can claim a full mastery of it.

Imperfect Methods of Measuring Accommodation—Our clinical methods of determining the near point of distinct vision, and through it the range of accommodation, fall far short in accuracy of our methods for ascertaining the acuteness of distant vision. Most of the series of reading test-types that have been in common use, like Snellen's, have no letters so small that they cannot be read at twenty inches, or farther, by persons with normal vision. Such types constitute a very inferior test of the accuracy of focusing at a distance of three or four inches; especially with the pupil strongly contracted with convergence. They give us very uncertain information regarding the near-point, and the amplitude of accommodation in young persons and myopes.

For a good many years I have used chiefly a test composed of the ordinary Roman letters reduced by photography, so that the smallest types are just read at ten inches with normal vision; and occasionally I have used still finer photographic reproductions, only visible within three or four inches. It would be a real boon if some of the inventive ingenuity now devoted to devising special forms of knives, forceps, or phorometers, were applied to this prob-

* Read at the Thirty-sixth Annual Meeting of the State Society, San Francisco, April, 1906.

lem of producing tests for the accurate determination of the near-point of distinct vision.

As matters now stand we are compelled to rely upon the patient's understanding of what it is we wish him to observe, and upon the patient's judgment as to when blurring of the test-type begins. Some time is consumed in teaching each patient how blurring of the print occurs when it is brought too close to the eye, that he must make the maximum effort to keep it as clear as possible, and then to make an accurate observation as to where this gradual alteration begins.

Statistics—In view of the imperfection of our methods, the inexactness and uncertainty of the data obtainable in the individual case, it is worth while to call to our aid statistics in which the influence of individual errors and the personal equation will be reduced to a minimum. As the basis for this present study of the subject I have had the amplitude of accommodation calculated for 3,346 cases seen in private practice, in which the accommodation was measured as a preliminary to the prescribing of lenses. The results in dioptres for each five years of the patient's age are given in Table I. The maximum accommodation met with for each period, the average and the minimum are shown in the last three columns of the table:

TABLE I.

Age.	Patients.	Average A.	Max.	Min.
5 to 10.....	87	12.28	16.	8.
10 to 15.....	242	10.66	15.	4.
15 to 20.....	106	9.50	16.	3.25
20 to 25.....	450	8.70	12.	3.50
25 to 30.....	420	7.86	12.	2.50
30 to 35.....	410	6.78	10.50	2.
35 to 40.....	344	5.70	8.50	2.50
40 to 45.....	349	4.38	8.	1.25
45 to 50.....	303	2.38	6.75	0.75
50 to 55.....	209	1.10	4.50	0.
55 to 60.....	70	.80	3.	0.
60 to 70.....	41	.10	1.50	0.

Accommodation in Early Childhood—The statistics of accommodation for the early years of childhood are very scanty. Even the school statistics of Risley, which included the determination of the near-point, give little help in deciding the general amplitude of accommodation in the lower grades. And it is generally agreed that the answers of young children are of such unequal and uncertain significance that it is as well in school examinations not to attempt the systematic examination of the lowest grades. Great uncertainty, therefore, exists as to when accommodation attains its maximum and begins to decline.

It is easy to assume that accommodation is at its maximum at birth, or in very early infancy, and progressively diminishes from this on. I think it is rather common to take this assumption and to act upon it. I am sure that statements based upon it are to be found in our literature, and that I have repeated such statements myself. But it now seems to me that this assumption is not correct.

Both analogy and direct observation rather indicate that the accommodation in early infancy is undeveloped and relatively feeble, that it gradually increases for a time, remains but little changed for some years, and then begins its gradual decline. The power of accommodation is rather imperfectly developed in the lower animals, generally not approaching in extent that possessed by man. Being thus of late development in the race, it would naturally be of late development in the individual. It is of value for the exact appreciation of small objects. This is only possible after the acquirement of high acuteness of vision; and full visual acuity is not developed in early infancy. The infant deals rather with large masses and general effects. The ciliary muscle, though fairly developed at birth, has by no means attained its maximum bulk, and its relation to the crystalline lens is not then such as to give it a maximum influence over the form of the lens. Probably with the ciliary muscle, as with other muscles, maximum power comes only with development under use.

To learn the real lesson of my statistics with regard to the development of the power of accommodation, I have prepared a table giving the average range of accommodation encountered each year between the ages of 5 and 15 years:

TABLE II.

Age.	Patient.	Average.	Max.	Min.
5	2	12.75	13.50	12.
6	5	11.55	12.25	9.75
7	15	12.46	15.50	9.75
8	23	12.77	16.	7.50
9	38	11.71	16.50	8.50
10	39	11.49	15.	8.
11	53	10.61	14.	4.
12	42	11.18	15.	6.
13	53	10.62	14.	7.
14	52	9.79	14.	6.
15	67	9.57	14.50	5.

In this chart each year is taken separately and, on account of the smaller number of cases, the averages are more irregular than those shown for five-year periods in Table I. But the trend of the testimony thus presented is unmistakable. There is no general diminution of accommodation until the eighth year, and the fall is not decided until after the twelfth year.

I cannot leave this subject without a few words with regard to its practical bearings. Hyperopia is recognized as causing convergent squint, through the excessive accommodative effort it entails leading to excessive convergence. Similarly, excessive convergence may be caused by the eye-strain of excessive accommodative effort, due to the attempt to see clearly small near objects when the accommodative power is yet imperfectly developed. Probably many of us have seen convergent squint arise during the temporary impairment of accommodation by post-diphtheritic paralysis, or after other exhausting disease. There seems to be a good reason for the popular impression that a child whose eyes incline to

cross should be kept from looking at small objects close to the eye; and there is a good ground for the treatment of beginning convergent squint by the efficient use of a cycloplegic in *both* eyes. The fact that often at the beginning of school life accommodative power is still not fully developed should also have weight in determining the age at which a child should begin school work, and the kind and constancy of the work required of him during the early years of school life.

Strong Accommodation Conceals Hyperopia—Turning again to Chart No. I it will be noted that the average amplitude of accommodation for the different eyes does not vary greatly from the averages given by the older writers, except perhaps for the years of childhood, to which allusion has already been made.

In early life the cases which show unusually strong accommodation are of interest chiefly from the bearing of this on diagnosis. A patient with 16 D. of accommodation might have 3 or 4 D. of hyperopia, and yet his near-point would be quite as close as would be expected. So that if the hyperopia were largely latent its amount and importance might pass unsuspected. In the earlier years of refraction work, following the teaching of the older writers, I relied considerably upon the "near point," to give some indication as to the amount of hyperopia that might be latent in young patients. While the "near point" does give some such indication, it is too indefinite and too often misleading to be relied upon. If the indication furnished by the position of the near point is contradicted by other evidence, no importance should be attached to it.

Accommodation Deficient—The cases in which the accommodation falls sufficiently below the normal average for the patient's age to make the deficiency of practical importance are frequent enough to justify their consideration at some length. But as the next paper on our program deals with this phase of the subject I will pass it with comparatively brief mention. At the outset of special practice, nearly 25 years ago, I encountered the case of a healthy boy of 15 who had only 5 D. accommodation, and required 1.75 D. added to the correction of his hyperopic astigmatism in order to do his near work at school. Recently I have seen a boy of the same age who had but 3 D. of accommodation. Both of these patients had been subjected to the influence of atropin for several weeks in the hope of revealing hyperopia that was supposed to be latent, and they each had a long history of unrelieved eye-strain.

But besides these cases in which the range of accommodation is manifestly deficient there is another class not shown by the above tables, in which the near point appears to be about where the average of accommodation for the patient's age would place it; yet in which there is marked insufficiency of the patient's accommodation for the requirements made of it. This class cannot be better illustrated than by quoting a case which I reported 20 years ago. (Trans-Pennsylvania State Medical Society, 1886.)

"W. G., a young man of 19, of good general health, but a hard student, during the winter of 1884 had increasing headache and failure of accommodative power and endurance. By the beginning of February these had rendered study almost impossible. Under homatropin the refraction of both eyes was proven practically emmetropic (less than 0.25 D. hyperopic astigmatism in either). I gave him minute instructions as to how to use his eyes for study with the least possible demand upon accommodative power, and ordered for near work for each eye $+1$ D. spherical with a 2° prism, base toward the nose; that the accommodation might be assisted without interfering with the relation between accommodation and convergence. The use of the homatropin necessitated two days' suspension of school work. After that he went right on doing the work under which he had just broken down. Improvement commenced at once, and progressed steadily, until, a month later, he was entirely free from headache or asthenopic symptoms. He continued his work without other inconvenience up to the end of the school year, and then, with lessened demand upon the power of accommodation, was able to throw aside the glasses altogether."

The Period of Presbyopia—As we come to the age when presbyopia is usually expected, the amplitude of accommodation has a determining influence on the time at which glasses must be put on or modified for near work. In no place is harm more likely to be done by substituting averages for the facts of the individual case than just here. The tables showing an average accommodation at the different ages, although properly intended to illustrate the subject, have done positive harm in the hands of incompetents, especially the rule-of-thumb opticians. This harm has happily been limited by the objections which some patients have to making any statements regarding their age, and the known unreliability of the statements that are made by others.

Many patients under forty have fully arrived at the age of presbyopia and eye-strain dependent upon it; while some emmetropes and hyperopes pass the age of fifty without any real need of lenses for presbyopia. There is nothing really incongruous or astounding in this latter fact, and yet I remember feeling a good deal surprised when I first encountered a patient over fifty who had full distant vision and had never used glasses or felt the need of them. This patient was a literary man, using his eyes most of the time for near work, and was a little hyperopic, yet he had enough accommodation for all his needs.

A little later in life an unusually high amplitude of accommodation has important effects that are readily ascribed to other causes and left unrelieved. I have seen a man aged 52 who had 1.5 D. of hyperopia latent, and apparently no accommodation until the use of a cycloplegic revealed the true state of his refraction. Many times have I encountered patients over 50 who had been under prolonged observation by fairly competent oculists, in whom the possibility of latent hyperopia as a cause of the

symptoms seemed not to have been suspected. I studied such a patient with the view of unmasking his hyperopia, only to find at the next test that his hyperopia was considerably higher than I had suspected at the first visit, and often to find it at a subsequent test still higher. The statement which I made 14 years ago, with regard to the latency of hyperopia deserves still to be emphasized: "That it is not more frequent or proportionately greater in childhood, or in early adult than in middle life." I believe now that latent hyperopia is more frequent and more troublesome after 40 than before that age. Hyperopia of low degree is more apt to be latent after 50, and at that age is very often the cause of eye-strain of obscure origin.

The age at which accommodation ceases or becomes inappreciable is seen to vary widely. In one case it had entirely disappeared at the age of 46; in the majority of cases it was absent or reduced to 0.25 D. after 60; but in one case there remained 1.50 D. at the age of 68 years, which would seem to indicate that it may persist to the age of 75 or 80.

In taking the near point of old people, it is necessary to guard against two important sources of error. The smallness of the pupil may enable the patient to read quite find print without having his eye optically adjusted to focus accurately for the distance at which it is read, or the refraction may vary in different parts of the pupil, so that good distant vision may be obtained through peripheral parts of the pupil, while the central part of the pupil (or the whole of its area when the pupil is contracted with strong convergence) may be decidedly myopic. The former may be guarded against by noting that the pupil is large, or even by dilating it with cocaine. The latter may be excluded by skiascopic examination. In the more remarkable cases with which I have met I am sure that these sources of error have been excluded.

It is clear that it is not unusual for the accommodation to persist to a considerably greater age than we have been accustomed to suppose. And I know of no reason why patients with healthy eyes who still possess accommodation of practical importance should not be allowed to use it. They generally appreciate the increased region of distinct vision which the weaker lenses afford them.

Sex Difference in Accommodation—Another point which is of some interest, brought out by this study, and which was a surprise to me, was the difference in accommodative power between the two sexes. Perhaps none of us would be surprised that women giving their ages between 30 and 50 should show less accommodation than men between the same ages. I have tried to guard against this by excluding from my tables a great many women between these ages in whom the statement of age was decidedly open to suspicion. I also tested my tables by comparison with the accommodative power of a smaller series of women whose ages were positively known to me; and I think the differences shown in table III really exist:

TABLE III.

Age.	Male.	Female.	Age.	Male.	Female.
5 to 10...	12.44	12.13	35 to 40...	5.89	5.62
10 to 15...	10.87	10.58	40 to 45...	4.49	4.30
15 to 20...	9.91	9.32	45 to 50...	2.89	2.78
20 to 25...	8.89	8.58	50 to 55...	1.53	1.48
25 to 30...	8.	7.80	55 to 60...	0.90	0.83
30 to 35...	6.87	6.73	Over 60...	0.65	0.50

The surprising thing is that these differences were found to exist from early childhood until the final decline of accommodation.

Inequality of the Two Eyes—The frequency of inequality of accommodative power in the two eyes is not brought out by these tables. A moderate inequality, 1 D. or less, is not rare. But in persons who have accommodation of 5 D. or over this difference is of little practical importance. With the advent of presbyopia moderate differences between the accommodative power of the two eyes more frequently need to be considered in the relief of eye-strain. Of course the difference between the strength of the two lenses given for presbyopia will not equal the differences between the accommodative powers of the two eyes. Commonly the difference between the lenses will be the same proportion of the difference of accommodative power, as the proportion of accommodation habitually to be used for near work; or rather less than this. Commonly the difference between the lenses will be from one-third to two-thirds the difference of accommodation, or in young persons even less than one-third. Higher differences of accommodative power are clearly due to unilateral or unequal pareses of the ciliary muscle, which are almost always accompanied by similar pareses of the sphincter of the pupil. But the low degrees exist without inequality of the pupils.

In presenting this study of the amplitude of accommodation, let me especially call your attention to

The wide range of variation in persons of the same age and apparently healthy eyes, making the near point a poor indication of the amount of hyperopia latent.

The frequency and importance of subnormal accommodation, even in childhood.

The variability of the age at which presbyopia begins.

The frequency of hyperopia latent after fifty.

The practical importance of differences in accommodative power between the two eyes.

And in general, the urgent necessity for studying carefully the amplitude of accommodation in every case of eye-strain.

ANEURISM OF THE LEFT VENTRICLE WITH REPORT OF CASE.*

By WILLIAM C. VOORSANGER, M. D., San Francisco.

Cardiac aneurisms are of very unusual occurrence, and as such should be looked upon principally as pathological curiosities. By this I mean that they are seldom or never clinically recognized, being

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found as a general rule only at autopsy. This may be accounted for by the fact that such aneurisms are usually occasioned by myocarditic or atheromatous trouble, and that the clinical signs and symptoms of the former are those of the latter disease.

Occasionally a cardiac aneurism may attain an unusual size and cause pressure symptoms in the mediastinum, in which case a radiogram may reveal its presence. However, such an occurrence is so rare that it may be dismissed with a word. Our leading medical authorities, such as Osler (1), Anders (2), Butler (3), Musser (4), Albutt (5), Strumpell (6), Leube (7), and Krehl (8), make identically similar statements: that the condition cannot be diagnosed clinically with any degree of certainty, and that it is most often caused by fibroid changes in the heart wall, due to a block of the coronary arteries, the latter occasioned by atheromatous degeneration and sclerotic patches.

Searching through the literature I can only find the record of one case which was diagnosed clinically, that of Vollker (9), quoted by G. Hall in his article in the *Edinburgh Journal*, October, 1902. In all probability behind this atheroma, syphilis acts as the prevailing etiological factor. Less frequently aneurism of the heart wall is caused by anemic infarcts fatty degeneration, mural endocarditis, and wounds of the heart. There is a case on record, published by Commotti (10) and Vittorio, of a basal heart aneurism of gummatous origin. This, to be sure, it is needless to remark, is of unusual occurrence. We find the condition more in males than in females, due, according to Strumpell, to the more frequent occurrence in them of coronary sclerosis.

Hendys, in a total of 208 collected cases, reports the occurrence of 74 per cent in males and 26 per cent in females. Three forms of cardiac aneurisms are usually described: First, of the coronary arteries; second, of the valves; third, of the heart wall. Coronary and valvular aneurism seldom occurs, the common location being the heart wall. Most authorities give the usual site of a cardiac aneurism as the lower part of the left ventricle, near the apex. Sir R. Douglas Powell (11) states that it occurs near the apex in 59 per cent in all cases, Von Jirgensen (12), in the Nothnagle Series, grants that heart aneurisms occur very seldom in other places than near the apex.

Hall collected 112 cases, the site of the aneurism being as follows:

Left ventricle, 92 cases; right ventricle, 1 case; left auricle, 2 cases; ventricular septum (a) muscular part, 8 cases; (b) membranous part, 7 cases.

The literature of cardiac aneurism, although quite abundant, has not been entirely at my disposal, owing to our still limited library facilities in San Francisco, but I have been able to ascertain that up to 1902 the number of recorded cases of cardiac aneurism was about 300. To this contribution of 300 case the most notable was by Legg (13), in 1883, who, in his famous Bradshaw lecture, presented a collection of 90 cases. John Lindsay Stevens (14), presented a collection in 1894 of 21 cases, in which in 16 he demonstrated how aneurism of the

heart wall with thrombosis may follow a calcareous infiltration or obstruction of a coronary artery, and in which he gave forth the very plausible theory that the development of fibrous patches in the heart wall, "probably affords the structural basis of a very large number of cases of angina pectoris." Since 1902 I have made a very careful search of all the literature at my command, and find the following cases have been reported:

Two cases by Benedict of Budapest (15); two cases by Davidsohn and Strauss, Berlin (16); one case by D. G. Hall, Edinburgh (17); one case by Wadsworth, Philadelphia (18); one case by M. W. Hall, Chicago (19); two cases by Bourland (20); two cases by Herczel (21); two cases by Gruner (22); one case by Roffo (23); one case by Goettsch (24); one case by Marie (25); two cases by Potts (26); one case by Loraine (27); one case by M. Riehl (28); making a total of 20 cases in five years, or 320 cases collected from literature. Although there may be a few cases during the past five years which have been missed, the above presents essentially all reported.

My own case, which I now desire to report, was the aneurism. As will be later demonstrated, the aneurism was found in the upper part of the left ventricle. Its cause, as you will perceive, was an atheromatous block of the left coronary artery cutting off the circulation to that part of the heart wall, and occasioning fibroid degeneration. The patient, W. A., age 62 years, a salesman by occupation, came into the medical service of Mt. Zion Hospital March 19th, 1907, complaining of shortness of breath, fainting spells, pains in the feet, especially across the instep and inner side of the foot, and restlessness during sleep. Also occasional attacks of palpitation and a feeling of tightness across the chest. His past history shows that in October, 1906, while employed as a porter, he began to have difficulty in breathing, which necessitated his giving up his work. Some little time later he began to have precordial pains after eating. A week ago patient began to have attacks of vertigo and fainting, which have increased in frequency and which are produced by any kind of exertion. From October, 1906, to February 2nd, 1907, he was treated by a number of physicians for heart trouble, and was aspirated for ascites. At this time he also had swelling of the eyelids. Seven or eight years ago had difficulty in holding his urine, but no trouble at present. Admits lues as a young man and several attacks of gonorrhœa. Family history unimportant. Previously to present illness was always a well man, and up to October, 1906, always worked at his occupation without intermission.

Status: Well built, well nourished man, weight 165 pounds, no glandular enlargements, tongue slightly coated, pupils react normally to light and accommodation, no disturbance in the course of the cerebral nerves. Patient lies in bed with rather an anxious look on his face, and respiration somewhat labored. Chest well formed, moves equally and freely upon respiration. At both bases of the lungs percussion note is dull and breath sounds dimin-

ished; otherwise negative findings. Heart, apex beat hardly palpable, just outside the nipple line in the fifth interspace; borders: upper, upper third rib, left: one finger breadth, outside the nipple line, right: mid-sternal line; heart action is arrhythmic; sounds not very loud, and at apex is heard a soft blowing distant systolic murmur. Over the pulmonary and aortic orifices the sounds are pure. Pulse 90, irregular, intermittent, not very full. Abdomen slightly distended, liver extends below the margin of the ribs, the edge is hard; spleen is negative. No edema of the legs. Urine examination, color amber, acid 1022, albumen 0.05%, sugar negative. Microscopical examination negative; blood examination: Rbc., 4,500,000; wbc., 7,600; h., 90%.



The clinical diagnosis was as follows: Mitral insufficiency and myocarditis with an acute break in compensation. He was placed upon infus. digitalis 150 q. i. d. and aspirin 0.6 every two hours, and showed a daily improvement. March 24th his pulse was regular, quite full, 80 to the minute, and his heart sounds much louder and better in character than at any previous examination; his dyspnea had vanished, and in all respects he felt very much improved. Late in the afternoon of this day he began to have an attack of tightness across the chest and pains in the precordial region, attempted to get out of bed, but fell back cyanotic and gasping, expiring shortly afterwards.

Autopsy performed by Dr. J. Schwarz, pathologist to Mt. Zion Hospital. Fairly well developed, well nourished middle aged man, no enlarged superficial glands, position of abdominal organs normal, the liver normal in size and position; slightly cyanotic, stomach, transverse colon and mesentery and omentum, normal, no fluid present in abdomen, peritoneum normal. Diaphragm reached to fifth intercostal space on either side; thorax well arched, symmetrical; right pleural cavity contained 1000 c. c. of straw-colored fluid;

right lung collapsed, otherwise negative; left pleural cavity contained 600 c. c. of straw-colored fluid, lung negative; pericardium contained 350 c. c. of straw-colored fluid. Heart: in general somewhat enlarged, the usual external tests show no insufficiency of the valve, heart measurements show length 14 cm., breadth 11 cm., thickness 7 cm. showing a moderate hypertrophy. The cut surface of the ventricular wall measures 2 cm., showing considerable hypertrophy. The right ventricle is dilated, flabby. Distributed through the walls of the left ventricle are numerous scars, especially in the papillary muscles. On the external surface of the left ventricle in the upper third is a thinned out area about three and a half cm. in diameter. The valves are all normal except the mitral, which contains a few thickenings. Beginning 8 cm. from the apex, just under the chordae tendinae is a cavity with a fibrous rim 4 cm. in diameter and 1½ cm. deep, containing a large clot. The clot removed shows the base of the cavity to correspond to the thinned out area on the external surface of the left ventricle. Small atheromatous patches are seen upon the aorta, the right coronary artery is atheromatous, the left likewise, and near its ending leading to the thinned out area on the ventricular wall is a calcareous patch almost completely blocking the artery. (This is, no doubt, the direct cause of the fibroid degeneration of the heart wall in this region, and the subsequent aneurism.) Spleen normal in size, slightly cyanotic; kidneys normal, except for slight cyanosis, pancreas normal. Pathological diagnosis: Hydrothorax pericarditis, mitral insufficiency, hypertrophy of left ventricle, dilation of right ventricle, aneurism of the left ventricle in the upper third near the auricle.

I have not aimed to add anything to the clinical diagnosis of cardiac aneurism by the presentation of this case. I have simply reported it for its pathological interest, and its unusual location.

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DERMOIDS OF THE SCALP.*

By REXWALD BROWN, M. D., Santa Barbara, Cal.

November 4th, Mr. H., age thirty-two, consulted me regarding a swelling in the region over the left orbit. He stated that in the four or five months just preceding he had noticed that the swelling had gradually increased in size. He also stated that there was no pain, never had been, and that the swelling had been present for years. On examination, I found the tumor to be of the size of a walnut and freely movable over the skull beneath. Its situation was an inch above the center of the upper margin of the orbit. The swelling felt cystic in nature, and my diagnosis was sebaceous cyst. I advised extirpation, which was consented to. Two or three days later, under local anaesthesia, I commenced to dissect out the sac and was markedly surprised to find the innermost portion of the sac attached to a pedicle. I unfortunately ruptured the sac, allowing the contents, which were grumous, serous and sebaceous in nature, to escape. Passing my little finger into the sac itself, more surprise met me, for my finger found a hole in the frontal bone sufficiently large to allow of its entrance for about an eighth of an inch or more, I should judge. The impression was that the opening through the bone was conical, the apex being directed toward the brain. I now felt that I was undoubtedly dealing with that rare trouble, a dermoid. The possibility of a meningocele occurred to me. I hastily cut away the sac, including part of the pedicle and packed the wound. Without untoward incident in ten days the wound healed by granulation. Today only a scar is present.

The conditions, dermoid and teratoma, have until recent years been confused in the minds of the medical fraternity. To Bland-Sutton are we indebted for our clean-cut differentiation between the two pathologic entities. Through careful and tedious study along comparative embryologic and anatomic lines, it has been possible to formulate the following definitions: Dermoids are tumors furnished with skin or mucous membrane occurring in situations where these structures are not found under normal conditions. They possess only tissues which naturally belong to skin or mucous membrane. Teratomas are irregular conglomerate masses containing the tissues and fragments of viscera belonging to suppressed fetuses attached to otherwise normal individuals.

The genesis of each condition is utterly distinctive, though both form in intra-uterine existence. Dermoids arise in two ways; first, in detached portions of skin or mucous membrane at situations where coalescence takes place, and, secondly, through incomplete coalescence of embryonic cavals. Teratoma arise through the imperfect development of a second primitive streak in an impregnated single ovum.

The etiology of a dermoid of the scalp is found in the development of the boundaries of the brain. In very early embryonic life the dura-mater and skin lie in contact. There is as yet no bony frame-

work—this appears in later days, the chondrification from base to vault gradually pushing apart the skin and dura-mater. Along the suture lines the bone does not form until a year or so after birth, particularly in the region of the large fontanelle and the occipital protuberance. Bland-Sutton's own words follow:

"Should the skin be imperfectly separated or a portion remain persistently adherent to the dura-mater, it would act precisely as a tumor germ and give rise to a dermoid. Such a tumor may retain its original attachment to the dura-mater and its pedicle become surrounded by bone: the dermoid would lie outside the bone, but be lodged in a depression on its surface with an aperture transmitting its pedicle.

In discussing the pathology of scalp dermoids, referred to very largely with the preceding etiology, it is necessary to add that the most frequent site of occurrence is, of course, in the region of the large fontanelle and the occipital protuberance. Examination of the cyst itself shows often sebaceous material and hair as contents. Microscopic examination shows the wall to be skin, containing sweat, oil glands and hair follicles. I have not yet subjected my specimen to examination with the microscope, but the inner surface on close scrutiny reveals very fine light hairs.

A dermoid of the scalp has no distinctive symptomatology. In diagnosis it is to be differentiated especially from meningocele and sebaceous cyst. If care is taken in questioning and examining a patient, a diagnosis usually can be made. Dermoids are always present from birth, whereas sebaceous cysts are not and meningoceles may or may not be. Dermoids are found usually near the anterior fontanelle and occipital protuberance and are single; sebaceous cysts occur in any situation and are often multiple. Meningoceles are single and are excessively rare in any region but the occipital and the root of the nose. Meningoceles, as a rule, rise and fall with regular pulsation and increase in size with coughing. Sebaceous cysts are not affected by these phenomena, whereas it is very rare for a dermoid to transmit blood pressure. All of these tumors may be freely movable over the skull unless inflammation has occurred in them and adhesions have formed.

The prognosis of a dermoid is not of itself bad. They can grow to a large size, however, and be decidedly uncomfortable and unsightly. Always there is to be thought of: A tendency to infection, cystic degeneration and carcinoma.

Treatment—The puncture and drainage of a dermoid is to be condemned. It can do no good, as the sac will, of course, refill from its epithelial lining and besides there is the possibility of infection, extending along the pedicles to the dura. Extirpation of the sac with as much of the pedicle as possible is the proper treatment. The wound can be closed at once, or if infection be feared along the pedicle, drainage may be placed in. The mortality rate should be nil. In this connection it may be said that payment for mistaking a meningocele for a dermoid and attempting its extirpation is a mortality rate of 90 per cent.

* Read before Santa Barbara County Medical Society, December 10, 1906.

GONORRHEAL CONJUNCTIVITIS.

CLINICAL COURSE AND TREATMENT.

By MORTON E. HART, M. D., New York City.

Gonorrheal conjunctivitis is an infection widespread in its distribution and of particular interest both to the obstetrician and general practitioner, for it is by these men that a case is usually seen before being submitted to the ophthalmologist for treatment.

While the early diagnosis is important, this is readily obtained by means of the microscope; for those physicians who are practicing in rural communities and do not enjoy the advantages of the laboratory, a presumptive diagnosis can be made from the early symptoms of the conjunctivitis.

However, the treatment is the most essential feature to be observed and I will dwell on this at length, after setting down a summary of the symptomatology, course, etiology and prognosis of a gonorrheal infection of the conjunctiva in the adult, or as it is called, gonorrheal ophthalmia, and the disease in the infant, or ophthalmia neonatorum.

After infection has taken place, there is a period of incubation, varying from a few hours to three days, according to the virulence of the infecting germ. The lids become reddened, hot and more or less swollen with edema—sometimes to such an extent that eversion is difficult and a view of the cornea almost impossible.

The conjunctiva of the lids, due to a cellular infiltration, is intensely injected, thickened and rough. This feature differentiates it from a benign conjunctivitis, as in the latter, the conjunctiva is yielding and has a smooth surface. The conjunctiva of the eye ball is swollen or as it is called, chemotic, but this chemosis ends abruptly at the limbus and gives the appearance of a crater with the cornea, deeply situated, as its base. The secretion at first is sero-sanguineous and is likened to meat juice—flakes of pus float about on its surface. The eye is sensitive and painful and the patient may have a slight rise in temperature. This is the stage of infiltration and the eye remains in this condition from one to three days.

Rapidly following this stage comes the stage of the purulent secretion. Simultaneously with the recession of the swelling of the lids and conjunctiva, there begins a very profuse secretion of pus from out the palpebral fissure. The swelling further decreases, until at the end of four or six weeks the eye regains its normal state, except for the condition of a chronic conjunctivitis which lasts for many months and finally subsides with slight but permanent cicatrices of the conjunctiva. The symptom complex herein given, corresponds to a typical case of moderate intensity.

But a variance is the rule and there are infections very light, and on the other hand of extreme severity. In the former, all of the inflammatory symptoms are less, the changes being limited chiefly to the conjunctiva of the lids. If there is any doubt as to the diagnosis, it can be dispelled by the presence of Neisser's coccus in the secretion. The viru-

lent cases show a great infiltration and chemosis of both the ocular and palpebral conjunctiva with the latter covered with an exudate similar to a croupous membrane. In the severe infections the involvement of the cornea is to be the most feared and in these extreme cases blindness is the usual outcome, either due to ulceration, followed by perforation and staphyloma, or a panophthalmitis and final destruction of the eye.

As to the prognosis—naturally the patient's first question is, "Can my eye be saved?" The surgeon must guard against a favorable prognosis in any case. The outcome will largely depend upon the conditions seen when first the eye comes under observation. If the infection is moderate, the infiltration being limited to the palpebral conjunctiva and the cornea clear, the outcome will probably be favorable with proper care and judgment in the treatment. I take this stand from observations made during my service in the contagious wards of the Manhattan Eye, Ear and Throat Hospital. Not one eye was lost that came into the hospital with a clear cornea. In the extreme cases, with chemosis of the bulbar conjunctiva, great infiltration of the palpebral conjunctiva and hazy cornea, the outlook for ultimate vision, if not for the preservation of the eye, is very grave.

Gonorrheal conjunctivitis is produced by direct infection with a secretion containing the gonococcus, brought in contact with the eye, usually by means of dirty fingers, towels, handkerchiefs, etc., soiled with a urethral or vaginal discharge. One patient, during my service, was infected by washing his eyes in his own urine—the urine being contaminated by a specific urethral discharge. This is a popular remedy among the ignorant classes for the so-called "cold in the eye."

The severity of the conjunctivitis is due to the virulence of the infection. On consulting my records in those cases where a history of the source of the infection could be obtained, I find that in chronic cases of urethritis and vaginitis the outcome was always favorable, while in severe cases, the infection was due to the discharge from an acute gonorrheal urethritis or vaginitis. This answers the question, why the infection in the adult is virulent and prognosis grave, while the majority of cases of ophthalmia neonatorum result in a favorable outcome—that the mother has been infected during the early months of pregnancy, is logical to suppose.

Whenever a physician is called upon to treat a case of gonorrhea, he should emphatically warn the patient against infecting his eyes, and explain to him the various ways in which the eyes can be contaminated. Prophylaxis in the new born plays even a greater role than in the case of the adult. This should begin before birth, by cleansing the vagina and parts about the vulva with any of the various antiseptic solutions at our command. Following birth, the lids should be carefully cleansed with a mild antiseptic solution and a 2% silver nitrate solution instilled into each eye—it is not necessary to neutralize this, as the sodium chloride in the tears

can take care of any of the excess of the silver nitrate in a solution of this strength. This procedure is carried out preferably after the first bath—if done before, the eyes may be contaminated again from the infected water. This prophylactic measure should be made obligatory, for the startling statistics of Fuchs confronts us, that 10% of the blindness of Europe, may be attributed to ophthalmia neonatorum. If one eye is already affected, the other should be protected. This is best done by a Buller's shield, which is simply a watch glass placed in a frame of adhesive plaster and securely sealed, especially at the bridge of the nose. Here it can be further strengthened by means of cotton and collodion.

Should all of our prophylactic measures prove futile, and an eye become infected, treatment should be instituted without delay. This depends on the stage of the disease.

In the period of infiltration, where the lids are swollen with edema, an immediate canthotomy should be performed. By this means, the lids can be everted and properly irrigated—the blood vessels are relieved and removes the pressure on the eye. The danger of abrading the cornea is greatly lessened as the lids can easily be everted. If this cannot be readily done, the cornea is continually threatened by the manipulation of careless attendants. An abrasion of the cornea-epithelium means an entrance point for the infecting bacteria with its train of direful results. The pain and swelling of this stage can be greatly relieved by the use of iced cloths.

In the stage of purulent secretion, cleansing is by far the important factor to be observed. The cold applications are stopped and the aim of the surgeon is to keep the secretion from accumulating in the conjunctival sac by gentle irrigations, with any mild antiseptic solution, every fifteen or thirty minutes, day and night, as the case demands. This is done by gently everting the lids and irrigating by means of a Davidson rubber ear douche bulb. The stream should not be directed against the cornea, as this may cause an abrasion of the epithelium. The kind of antiseptic solution used is of small moment, as long as it is mild—in this hospital, a saturated solution of boric acid is employed.

After this cleansing, what germicide should be applied? We naturally look to the various silver preparations for an answer. To discuss fully the subject of the value of the newer silver preparations as compared with nitrate of silver, would lead into too long a discussion, so I will content myself with giving my personal experience in the contagious wards of this hospital and drawing attention to the clinical results. All of the patients are placed under the same conditions of temperature, ventilation, food, nursing, etc., and in fact the conditions surrounding the patients are almost as much under control as the conditions surrounding cultures in the laboratory—so our clinical results are as reliable as it is possible to determine and therefore are worthy of the greatest consideration.

Fifty cases of gonorrheal ophthalmia and ophthalmia neonatorum were treated at the hospital during the past five months—in all of these cases, gonococci were present in the pus, on entrance. The patients were placed in three separate divisions on admission and treated with a 25% solution of argyrol, 2% silver nitrate solution and 2% silver in conjunction with 25% argyrol, respectively, and irrespective of the severity of the infection. These patients had similar treatment as far as cleansing, nursing, etc., were concerned.

In those cases where argyrol alone was instilled, the solution was flooded into the eye every hour, day and night. Where silver was used, the solution was brushed over the conjunctiva once daily, in the morning. The application should not be made at night, because the secretion, which is poured out more abundantly after this treatment, would be retained in the cul-de-sac during sleep. I find that a 2% silver nitrate solution answers every purpose of a stronger solution, as we can regulate the effect by a light or firm application. Corneal ulcer is no contra indication to the use of silver.

In the third class of cases, a 2% silver nitrate solution was applied once daily in the morning, and a 25% argyrol solution instilled every hour, night and day.

During these five months, I kept accurate records of the progress of these cases. I could see that the most rapid recovery was made in those cases where the combined treatment was used. It was my impression that silver came next on the list, with argyrol far behind. But a man's impressions are apt to be fallacious and my results, which I will present below, will show how fallacious my impressions were. In the first series of cases, treated with argyrol alone, the average length of time it took for the pus to become negative, as shown by the microscope, was sixteen and one-half days. In the "silver cases," sixteen days and the combined treatment, silver nitrate and argyrol, only nine days. Smears were examined almost daily. I believe the rapidity of the "combined treatment" can be explained as follows:

Immediately upon the application of the silver nitrate solution, a bluish-white pellicle forms on the conjunctiva, due to a coagulation of the albumin of the cells in the upper layers of epithelium—these layers become opaque and die. This process causes a hyperemia and induces a transudation under the eschar, so that the latter separates and is thrown off—the micro-organisms contained in the superficial layers of the epithelium are also cast off and washed from the eye. Now we know that while argyrol does not have this action, it has a deeper penetrating power than silver, so when a solution of argyrol is instilled into an eye in which the eschar has been cast off, it has a better chance to penetrate deep down into the tissues, the coat of mail, as it were, being cast off.

In conclusion I wish to thank the Eye Surgeons of the Manhattan Eye, Ear and Throat Hospital, who have made it possible for me to carry out this series of experiments.

April, 1907.

THE DIFFERENTIAL DIAGNOSIS OF ORGANIC FROM FUNCTIONAL DYSPEPSIA.*

By DR. DUDLEY FULTON, Los Angeles.

The method in vogue of studying the gastric functions, while advanced over those employed several years ago, are still inaccurate and deficient in diagnosing many cases of dyspepsia. Clinical instances are common with all of us in which, after a gastric analysis, we are still in doubt as to the pathological condition giving rise to the sub- or hyper-acidity, or whatever the stomach findings may happen to have been. One may easily quantitatively estimate the amount of acid or demonstrate the presence or the absence of ferments, but in pointing to the primary causes of these deviations from the normal, gastric analysis has decided limitations. In organic dyspepsia, the causes are to be found in anatomical alterations of some structure of the stomach wall. Ulcers, fissures, gastritis, cancer, dilatation and adhesions are the most common organic diseases. In functional dyspepsia, the digestive disturbances are dependent upon conditions remote from the stomach, and are not due to pathological alterations of it. Of the functional dyspepsias the most common and important are: the gastric neuroses, enteroptotic dyspepsia, the reflex dyspepsia caused by diseases of other organs—such as the gastric crises of tabes, and the dyspepsias due to chronic wasting disease—such as pernicious anemia, etc.

The clinical differentiation of organic from functional dyspepsia is often very difficult, since the subjective symptoms and the laboratory findings are in many cases so nearly alike in both—especially if we accept the teaching of most of the standard works on the subject.

When properly diagnosed, there are no internal diseases more satisfactorily treated than the dyspepsias.

It is beyond both the period allotted for the reading of this paper and my ability to cover the differential points between organic and functional dyspepsias. The following ideas, however, based upon liberal reading of the literature of gastric disorders and upon some 400 personal cases in which a test-meal was given to assist in making the diagnoses, may serve to bring out a discussion and the presentation of the views of others.

In our opinion more is to be learned of the dyspeptic by a careful history of his subjective symptoms and the physical examination, than by the test-meal. The latter is, however, indispensable in perhaps 25 per cent. of cases. Diagnoses based exclusively upon laboratory findings, are not often to be relied upon. The physiology and pathology of the gastric secretions, being modified as they are by psychical influences, body fatigue, by the quantity and quality of the food, as well as by the general state of health of the patient are too complex to be rightly interpreted by the findings of

the test-tube and microscope of the laboratory alone. If, however, gastric analysis is used as a supplement to the clinical history and physical examination, it is of much value, particularly if several test-meals are given in the same case.

Cohnheim (1) of Berlin considers that in 75 per cent. of stomach cases a correct diagnosis can be made by the clinical history and the physical examination. The mistake most commonly made in examining stomach cases is, that a careful anamnesis is not obtained. Neither the questions of the physician nor the answers of the patient are precise, definite and accurate concerning subjective symptoms. Consequently enough facts are not obtained to assist materially in making the diagnosis, and the physician is as often led astray, as helped.

The history of a patient's suffering—the effect of food and the dependency, or independency of the symptoms upon the same; whether actual pain exists, or whether after closer questioning only pressure or fullness is said to be felt; whether the suffering is constant or only at certain regular, or irregular intervals after eating; whether pain is localized or diffuse or radiates to the sides or back; whether vomiting is a symptom, the time of vomiting in relation to meals, the character of the vomitus, etc., are of greater value in differentiating organic from functional dyspepsia than the test-meal.

We believe that when the correct interpretation of the subjective symptoms of a patient is given, and the physical examination carefully performed, the most important task in making a diagnosis of the majority of cases of stomach troubles has been fulfilled. It is well to always keep in mind that most of the cases of dyspepsia are functional.

The determination as to whether the patient has actual pain or only pressure or fullness is of the greatest practical importance, since pain is never found in functional dyspepsia. If actual pain exists, an organic lesion is present either in the stomach or in one of the neighboring organs. (2) We are well aware that in most of the text-books pain is considered a symptom of functional as well as of organic dyspepsia, that it occurs in simple hyperacidity and in the sensory neuroses of the stomach, and that neuralgia exists as a primary trouble, independent of lesions of the mucosa or other structures of the stomach. Theoretically speaking, gastralgia may exist as does trigeminal neuralgia. Practically, however, the term in its older sense is becoming obsolete. The operating table and autopsy findings are showing that gastralgia is almost always traceable to either the active lesions, or to the complications of the same, of the stomach or some neighboring organ. Less generally accepted is the view expressed by Leo, (3) Cohnheim and others, that the instances are very rare where pain is a symptom of an uncomplicated hyperacidity of the gastric juice. Lesions of the stomach mucosa: inflammation, ulcers, abrasions or adhesions are probably always present in those cases where real pain exists. We have found that in the management of these cases that if the treatment is

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based upon the assumption that all such are organic, good results are obtained, and we regard it a safe maxim to follow: when in doubt regard the condition as organic.

Functional dyspepsia, as mentioned above, rarely, if ever, produce actual pain. Upon close inquiry, such patients describe their discomforts in other terms, as pressure, fullness, heavy feeling, or are often unable to accurately describe their sensations. But they do not have real pain.

Ordinarily, a dyspeptic describes his discomforts by saying that he has "pain" no matter what his distress may be. It is always necessary to either support or to eliminate this expression, by further insistent questions, in order to learn anything by this very important question. Furthermore, most patients state that the pain is in the stomach, whether it is in the epigastric region or in any other part of the belly.

We state, therefore, that as a working basis, actual pain in the epigastric region means organic disease of the stomach or of some neighboring organ.

Another differential point between the pain of organic, and the pressure or fullness of functional dyspepsia, is that the former is greatly modified and dependent upon the quality and quantity of the food, (4) while in functional stomach trouble, particularly nervous dyspepsia, the symptoms are aggravated more by excitement or general nervous irritability than by food. The symptoms occur after hard or soft foods, or with an empty or full stomach. In organic dyspepsia any diet which spares the diseased mucous membrane naturally modifies the amount of suffering. For instance, in gastritis, discomfort is felt only after eating hard foods (5) which mechanically irritate the mucosa, while in nervous dyspepsia, the pressure occurs after any kind of a diet. The distress and tenderness which is found on palpitation in nervous dyspepsia is diffuse: (6) that in ulcer circumscribed (7) and usually radiates (8) by preference around the left side to the 10th or 12th dorsal vertebra. (9) Increase of the pain, when the patient is in the right-sided position speaks for the location of the ulcer around the pylorus. Increase in the dorsal position, for the location on the posterior stomach wall. Increase in lying on the abdomen, for its location on the anterior stomach wall. (10) The fixity of the pain is also typical of ulcer (11). Stomach pains of a cramp or colicky character are due to involvement of one of the orifices of the stomach. The pain of cardia involvement usually occurs immediately or very shortly after eating. That of pyloric spasm three or four hours after eating. We regard spasm of the pylorus or cardia as always due to some organic lesion, and that neither occurs as an uncomplicated neurosis. The frequency of small breaks in the continuity of the gastric mucosa is now being rightly appreciated. These occur as minute ulcers, fissures, and erosions, easily overlooked during an operation or an autopsy. Just as these occur on the mucous membrane of the nose, mouth, lips, or anus, they occur in the stomach and are able to

produce pain and distress which is usually wrongly attributed to hyperacidity or to a gastric neurosis. Characteristic of these small abrasions of the mucosa, is burning, boring pain three or four hours after eating, which if located within the sphincter area, assume a spasmodic character.

In discussing the differential diagnosis between atonic and mechanical conditions which give rise to dilatation of the stomach, a short review of the prevailing opinions on this subject is not out of place.

Most writers lay much importance upon atonic dilatation of the stomach. By this term they designate a relaxed, flaccid condition of the musculature which gives rise to much the same symptoms and disturbances as the dilatation due to other causes. The subject is one of the greatest practical importance, if we consider the term "atonic dilatation" as indicating an enlarged stomach together with inability to normally expel the food into the duodenum. This is Riegel's (12) conception of "dilatation" and corresponds to the term "ectasia" used by other writers. Every one agrees that any condition which prevents the food from passing into the duodenum within normal time limits, is a very serious condition. Disturbances of motility are of greater seriousness than disturbances of secretion. A stomach which empties normally may give rise to no symptoms—no matter what the quality of the gastric juice may be. On the other hand, a stomach which may be normal in all of its functions with the exception that stasis of its contents exists is always productive of serious gastric disturbances.

For diagnostic, practical purposes, no better means of diagnosing insufficient motility of the stomach has been suggested since Leube (13) advised washing the stomach out 6 or 7 hours after a full meal. If food is present, insufficiency of its motor powers is present. Since treatment of insufficiency must depend upon the cause of the stasis, the differential diagnostic principles are of the greatest practical importance in stomach work.

In the first place, the size of a stomach has nothing to do with its motor powers. A dilated stomach may empty normally, while food may remain within a normally sized stomach, hours longer than is physiological. From this it is clear that a dilated stomach is of no clinical importance so long as stasis of food is not an associated condition.

The important factor is food retention, not the size of the stomach. Dilatation is not a disease, but a symptom. If we exclude megalo-gastria and the acute dilatation following overloading the stomach and after abdominal operations, we believe that dilatation of the stomach is in by far the largest majority of cases due to mechanical obstruction, and that atonic conditions do not cause any serious food stasis. We regard every case in which after the administration of the test supper, remnants of it are found in the stomach the next morning, as due to organic obstruction of some sort.

We have never yet seen a serious case of food stasis due to atonic dilatation. If food stasis results from atonic conditions in which the musculature is too weak and flabby to expel its food into the

duodenum how are we to account for the fact that forced feeding improves the condition? If atonic dilatation existed, the introduction of more food would aggravate the condition as it aggravates the conditions in organic obstruction. The opposite is the case.

Faulty conclusions are often made by finding the stomach abnormally low, and by the occurrence of splashing sounds in the stomach. Neither are indicative of dilatation. In the first place the significance of splashing succussion sounds is due to more of the stomach surface being in contact with the stomach wall than is usual. Normally about one-third of the stomach is covered by the abdominal wall, the greater portion of the stomach being behind the liver and ribs. Any condition, therefore, which brings more of the stomach wall into immediate contact with the abdominal wall, such as congenital or acquired ptosis or dilatation, will permit splashing sounds to be easily produced. In the second place, the *sound* of splashing is of no consequence, but splashing which is *felt* is of practical value as indicating the lower border of the stomach. Splashing sounds do not have this significance.

The frequent diagnosis of dilatation is due to improper methods of investigation and wrong conclusions. Probably in the majority of the cases the condition is ptosis—a very common condition, while dilatation is by no means common. Persons with a congenitally narrowed thorax are predisposed to enteroptotic dyspepsia. Striller (14) of Budapest designates such persons as having the "habitus enteroptoticus." The long narrow thorax does not permit the stomach to occupy its normal position, but forces it into a more vertical position. More of the stomach wall is in contact with the abdominal wall and the lower border of the stomach reaches to the umbilicus or below it. This condition is mistaken very commonly for dilatation. Persons with the "habitus enteroptoticus" are predisposed to stomach troubles, dependent upon the malposition of the organ. Cohnheim has drawn attention to the very interesting fact that persons with this "habitus enteroptoticus" do not suffer from dyspeptic symptoms unless they are subnourished, and that the gastric disturbances are, as a rule, of a functional nature. We believe enteroptotic dyspepsia to be one of the most common forms of digestive trouble.

Perhaps none of the disturbances of the stomach require greater diagnostic judgment in differentiating organic from functional, than anomalies of secretion. It is such a fully accepted fact that hyper- and sub-acidity may be due to neuroses of secretions as well as in the various organic diseases, that after the gastric analysis has been made, one is still in doubt of the diagnosis and must usually depend upon the subjective symptoms and clinical examination for final judgment. In such cases several test-meals are usually required to be of any value. In those cases where there is no free HCl, one is able to eliminate organic disease if the gastric ferments are present in normal amounts. The mere quantitative

demonstration of them will not suffice, as the ferments are present long after the HCl has disappeared. Boas' (15) method of measuring the functional activity of the lab ferment, as modified by Cohnheim (16) is so simple and effective that for practical work it is to be preferred to the more laborious quantitative estimation of the peptic activity, and since they run parallel, the measuring of one suffices for both. Only in interstitial gastritis and in atrophy of the mucosa are the ferments markedly depressed or absent, and the prognosis correspondingly bad.

Does hyperacidity exist as a primary condition, independent of organic lesions? We can safely say that at least such is the case only rarely. Hyperacidity is in by far the majority of cases secondary to (1) irritative conditions of the mucosa such as gastritis and ulcer, and (2) to those conditions which favor food stasis. The much discussed question as to whether hypersecretion is a symptom of food retention or due to a secretory neurosis is also still more or less unsettled, but we believe that both hyperacidity and hypersecretion are almost invariably dependent upon either irritative lesions or retention of food, and that we should be very cautious in making a diagnosis of nervous hyperacidity, or hyposecretion. Pure nervous hyperacidity is usually reflex from disease, usually organic, of some other abdominal or pelvic organ which of course requires the treatment rather than a stomach.

To summarize the views of this paper:

1. The importance of more accurate clinical investigation, and the inaccuracies of depending too fully upon "laboratory diagnosis."
2. Actual pain is always a symptom of organic disease of the stomach or of some neighboring organ.
3. The symptoms of organic dyspepsia are dependent upon quality and quantity of food.
4. These symptoms of nervous dyspepsia are independent of diet and vary with the degree of general nervous irritability.
5. Stasis of food within the stomach is probably never due to "atonic dilatation."
6. Hyper-acidity and hyper-secretion rarely occur independently of an organic lesion.

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EFFECT OF CHEMICALS ON THE HEART NERVES.*

By WALTER E. GARREY, Ph.D., San Francisco.

I desire to present to-night a preliminary report of some experiments on the chemical stimulation of heart nerves. The work is, as yet, in its incipency and not nearly so complete as I had hoped it would be when I consented to present it. The work is only an extension of work upon the chemical stimulation of nerves, so systematically done by Greutzner and A. P. Mathews for motor nerves, and by Greutzner for sensory nerves. So far as I have been able to discover, the cardiac nerves have not been worked on at all, and this investigation was undertaken in the hope of gaining new knowledge concerning the stimulating action of chemicals on nerves and of adding to our knowledge of the action of cardiac nerves. Especially was it hoped to segregate, by means of chemicals, different kinds of nerves running in mixed trunks. Thus far I have only succeeded in showing that efferent *cardiac* nerves may be stimulated by chemicals just as any motor or sensory nerve may be; only a limited number of chemicals, however, have been experimented with and the concentrations used have been few. The chemicals used have been those with which I have been led to expect the most pronounced stimulating effects, namely, solutions of those salts which precipitate or decrease the ionization of calcium or otherwise inactivate it, for it has been shown by Loeb and the author, in work, the complete report of which has not yet been published, that these are the salts, at least in their sodium combinations, which are most active in stimulating skeletal muscles and thereby inducing rhythmic twitchings.

Two possible effects of solutions must be borne in mind in any such investigation, viz.: the effects of concentration (osmotic pressure effects) and true chemical effects. These must be carefully segregated. For example, pure glycerin, as has been shown by Kuehne, is a powerful nerve excitant, but when diluted so that it is isotonic with the tissue and blood, has no such effect. Similarly the crystals or concentrated solutions of sodium chloride will quickly stimulate motor nerves and produce a tetanus of the muscle innervated while physiological salt solution has no such effect, or at least only after a very long latent period. The action of strong solutions, therefore, may be due to the extraction of water; in fact, Mathews has shown that almost any chemical, if the osmotic pressure of the solution is high enough (12 atmospheres), will give a primary stimulation of motor nerves, although the chemicals themselves may be powerful nerve depressants.

Osmotic Pressure Effects.—Most of my work has thus far been done on the vago-sympathetic nerve of the turtle, which is cut and the cardiac stump immersed in the solutions. In accord with the facts just stated, it is found that pure glycerin and concentrated solutions of sodium chloride or cane sugar or urea will effectually stimulate the cardiac nerves, producing both an augmentation of force of contraction, and slowing of the rate and finally bringing the heart to the diastolic standstill, while weaker solutions of the same chemicals, isotonic with the tissues, have no apparent action. The weakest solution of sodium chloride, which, when applied to the vagus nerve, has a marked effect upon the heart beat, is a half molecular solution ($\frac{m}{2} = 2.9\%$). This is four times the concentration of the blood or tissue.**

Chemical Effects.—The specific action of chemicals was tested by the use of $\frac{m}{8}$ solutions of the following salts: Sodium chloride, sodium phosphate, sodium carbonate, sodium citrate, sodium oxalate and sodium sulphate. With the exception of the first of these, all of the salts belong to the class of calcium inactivators referred to above, and in concentrations isotonic with the tissue, all of them, except sodium chloride, act as powerful nerve excitants, producing both an augmentation of the force and a decrease in the rate of the heart beat. The latent period in this form of nerve stimulation is relatively long, usually in the neighborhood of from two to ten minutes. But this latent period may be perceptibly shortened if the end of the nerve has been freshly cut. The first effect upon the heart is *always an increased height* of contraction, and this effect is also noted when concentrated solutions are used. The increased height may amount to treble the height of the ordinary contraction, and is evidenced in the contraction of both auricle and ventricle. Of all chemicals used, disodium phosphate seems to be most effective in this particular. The increased height is interpreted to mean a true augmentation of beat, and to be due to the stimulation of the augmentor fibres of the vago-sympathetic; this point, however, will be tested further. Following upon the augmentation there is a true inhibition of the rate which may be simply slowed or the contraction entirely inhibited. The inhibition is particularly well seen in one experiment with sodium citrate in which, after a latent period of two minutes, the heart was held in complete inhibition for forty-five minutes; it then beat for seven minutes, stopped again for seven minutes, beat for four minutes, stopped for three minutes and then took up an accelerated rate. The inhibition may involve the whole heart—i. e., sinus venosus, auricle, and ventricle. When the heart escapes from inhibition, the sinus invariably beats first.

* Abstract of a paper read before the Cooper Medical College Science Club, December 3, 1906.

** All concentrations are given in terms of molecular concentration, not in percentages, a necessity in comparative work on the action of the chemicals as has been pointed out by Greutzner and emphasized by Loeb.

but at a very slow rate, the auricles and ventricles remaining quiet, showing that there is a sino-auricular block as well as a sinus inhibition. Gradually this block is overcome, every third or fourth beat of the sinus being followed by a beat of the auricles and ventricles, ultimately the vagus action disappearing completely. I have never seen a beat of the auricles or ventricles, however, which did not follow a previous beat of the sinus. The effect of the stimulating chemicals disappears when the immersed end of the nerve is cut away or placed in non-stimulating solutions such as sodium chloride or Ringer's solution of isotonic strength; exceptions to this latter statement are noted whenever the "contact irritability" described by Loeb has developed (see below).

One interesting fact concerning changes in rhythm should be recorded, to the effect that the rhythm after stimulation of the nerve is not always the same as before stimulation. Thus 2—3 rhythms,—1—3 rhythms, and 3—4 rhythms have been noted. In one experiment upon the rabbit the vagus was

stimulated with sodium citrate ($\frac{m}{8}$). After a

latent period of two minutes the beat suddenly dropped from 180 to 60 per minute. Whether this was due solely to a change in rate of the ventricle, the auricle maintaining its original rhythm, or to a block in the His' bundle, has not been determined.

The action of these various salts can be readily neutralized by the addition of calcium to the solutions tested. Of course, in some cases a precipitation takes place, but in others, such as sodium citrate, there is no precipitation; the calcium, however, still showing its inhibitory action. It is necessary, in determining the action of calcium, always to add it to the solution and not to remove the nerve from the solution, and subsequently immerse it in the calcium solution. In the latter cases a distinct stimulation often follows the immersion in the pure calcium solution with the resulting inhibition of heart. The action, however, is not a true effect of the calcium, but may probably be explained by the fact that the solution previously used had developed Loeb's "contact excitability" and is in a condition to respond to contact with any solution or any solid with the consequent inhibition of the heart. This development of contact excitability with calcium salts is, I believe, an entirely new observation, but the possibility of developing contact excitability is one which must carefully be borne in mind in all chemical stimulation of nerves. That calcium salts are the direct antagonists of those which we have been considering is, however, shown very positively by immersing the freshly cut nerve in isotonic solutions of calcium chloride or calcium nitrate, then washing the nerve and immersing it in any of the isotonic stimulating solutions; either no stimulating effects follow or only minimum effects after a very long latent period. In these tests the nerve remains irritable to weak induction shocks.

A few observations have been made which indicate that the central endings of the vagus nerve

may be stimulated by this same series of salts which we have been considering, for injections of isotonic strengths into the spinal cord or emersion of the medulla, results in an inhibition of the heart. The work is still in progress and will be amplified by testing the action of salts of other metals and by testing the action of these salts upon other animals, particularly upon mammals. A fuller report will be made at some future time.

Dr. Hewlett, discussing paper read by Dr. Garrey: "I have been very much interested in these experiments, because digitalis stimulates the vagus nerve, and in man may produce some of the results described in these experiments. The first action of digitalis, as of stimulation of the vagus, is a slowing of the pulse. Somewhat later it tends to produce a blocking of the contraction wave, either at the auricular ventricular junction or possibly above the auricles between them and the sinus. At least this latter is the interpretation which I have made of some tracings obtained from a man whose heart showed an excessive digitalis effect."

THROAT INFECTIONS OF CHILDHOOD.*

By S. T. POPE, M. D., Watsonville.

By far the most frequent disease of childhood is throat infection. In hospital and clinic work, this is not apparent, because of the transitory nature of the disease, and in these institutions we seldom see but the sequellæ. No doubt it is due to this fact, that medical teaching lays little emphasis upon the subject. Not only are infections of the throat the most frequent disease during childhood, but, in their results, they are among the most serious.

Tabulating the data of my six years of country practice, I find that the entire number of clinical cases is 5,625, and of these, 396, or 7 per cent, were those of throat infection, occurring principally in children. Of this number of cases, 334, when first seen, had active inflammatory lesions of the fauces; and 62 apparently presented the sequellæ of throat infection, but had passed the initial stages.

The average layman untrained in deduction believes that teething and colic are the most common diseases of infancy, and that acute indigestion is the special bane of childhood. To these concomitant or resulting occurrences he ascribes the fretting, restlessness and fever of the baby, and the vomiting of the child. We, however, must recognize that these symptoms are rather the expression of an intoxication and this intoxication I venture to assert commonly is derived from the throat.

In a careful examination of these patients, in whom, generally, there is so little to be seen, the tonsils, pharynx, and post-nasal tissue will show, clearly, the cause of their fever, malaise, digestive upheaval, and subsequent reactions. The tonsils will be found injected and swollen, or hypertrophied and inflamed, or covered with an in-

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

flammatory exudate, or have their crypts filled with fibre-purulent deposits. The pharynx, uvula, and larynx are hyperemic and edematous. The post-nasal tissue, where it is possible to view it, is redundant and inflamed; exuding a mucopurulent secretion, and definitely the site of an infection.

Unless there is a peritonsillar abscess, there seldom is much distress in the throat. I've never seen an infant with an abscess in this location.

Children seldom know that they have sore throat, and generally the condition is one simply of diffuse hyperemia, with a thin, dirty exudate scattered over the tonsils. The actively suppurative tonsils are *not* those that are attended by the most serious complications.

Smears and cultures from these throats give different pyogenic bacteria. The most prevalent are various strains of streptococci. In some invasions, the influenza bacillus is associated with this organism. The pneumococcus, staphylococcus, and pseudo-diphtheria bacillus, are present at times.

The disease usually runs a short course, from 3 to 5 days in infants, and is attended by all the phenomena of fever, generally presenting a mild leucocytosis. Sometimes, in the rachitic and in those of neuropathic heredity, there are convulsions. The infection terminates, usually, in coryza, or in bronchitis.

There are well defined epidemics of this malady, and the disease is markedly contagious. All the members of a family may be afflicted in turn. The adults may have follicular tonsillitis, the baby a naso-pharyngeal inflammation, with laryngitis and croup, while another may have a mild tonsillitis, followed by broncho-pneumonia, or multiple arthritis.

At times the mildness of the throat lesion permits it to be overlooked, and only the complications are evident. No doubt the majority of the so-called febriculæ—idiopathic, or ephemeral fevers—described by older writers on medicine, are but throat infections, with some of their complications, or a mild septicemia, following.

It is now understood, that typhoid is a septicemia. It may start from an infected buccal cavity, and typhoid bacilli can be detected, first in the tonsils, next in the blood, and later in the faces.

Of course, in typhoid the nature of the disease can be ascertained, through the Widal reaction, and blood cultures, but in cases of fever resembling typhoid, it is difficult to know the cause. Paratyphoid is not easy to diagnosticate, and certainly in many cases of supposed paratyphoid, we lack convincing proof.

This winter I have seen three cases of fever, resembling typhoid, but which lacked some of the clinical features, as well as a Widal reaction, and a *diazo*. No demonstrable lesion existed in any organ, and a mild leucocytosis represented the only change in the blood; no cultures being taken. In one of these, a boy of ten years, the fever was an exact type of ephemeral fever, so classically described by Pepper, having the throat, the erythematous eruption and the continued pyrexia. The other

two resembled paratyphoid, starting with a tonsillar inflammation, a very mild bronchitis, intestinal tenderness, and tympanites, enlarged liver and spleen, and running a course of three weeks' fever; one having rose-spots. None of these gave any hints of tuberculosis, or malaria, or endocarditis, with the most careful examination. These might have been considered paratyphoid, which would have been merely an assumption. Reliable paratyphoid agglutination reactions are rare. So, for the time being, these must be considered septicemias, following some infection of the fauces.

The fact that, primarily, they were infections of the throat, might be challenged, were it not that lymphadenitis of the neck was proof positive of a faucial infection.

In nearly all these 396 cases of throat infection, it was possible to detect enlarged lymph nodes in the posterior cervical, or sub-maxillary regions, within a few days of the inception of the disease, the lymphatics of the rest of the body being normal.

Practically, every enlarged lymph node of the post cervical group, derives its infection either from the ear, the scalp, or the post-nasal space. Those of the anterior group derive their infection from the tonsils and teeth.

Cervical lymphadenitis is such a constant complication of throat infection, that it can be considered part of the disease. Suppuration of the nodes is rather rare. Pronounced lymphadenitis occurred in 12 per cent of these tabulated cases.

More frequently than we recognize, the tubercle bacillus is a factor in the condition, especially in chronic inflammations of Muller's ring.

It seems to me that the so-called struma is nothing but a chronic tubercular infection of the lymphoid tissues of the throat, and that the concomitant phlyctenular conjunctivitis, anemia, lymphadenopathy, and all, simply are subsidiary conditions. Tubercular foci in the tonsils and post-nasal tissue, are productive of tuberculous lesions in bone. Two cases of this character occur in my list.

In the acute stage of throat infections, we also see stomatitis and gingival inflammation.

It is so common for infants to erupt teeth at this time, because of the infected gums, that the laity invariably draw the wrong conclusion, and think that teething causes the fever, sore gums and vomiting.

During the height of the systemic intoxication caused by the invading bacteria, various skin eruptions appear. In these 396 cases, I have recorded 2 per cent as having erythema scarlatiniforme, which easily might be mistaken for scarlatina. Two-and-a-half per cent presented erythema nodosum, usually of the legs.

It is rather significant to me, that in no case of erythema multiforme coming under my observation, was there not a history of sore throat immediately preceding.

The erythema group described by Osler, which can be classified with erythema multiforma and purpura, under the head of morbus maculosus, Werlhofii, apparently is related to these simple

erythemas, and suggests very strongly a similar etiology.

The association of arthritis with these erythemas is marked. Four per cent of these cases were of polyarthritis, 1 per cent having concomitant skin eruptions. Whether or not a case is classic inflammatory rheumatism, after a throat infection, depends entirely upon the character of the invading parasite. No doubt there are different types of bacteria concerned. The cases also differ clinically, some being typical acute polyarthritis, others being monarticular, and resulting in permanent joint injury.

In my histories of acute multiple arthritis, so-called inflammatory rheumatism, I have not been able to find a single case in which there was not a prior condition of sore throat, except in gonorrhea, erysipelas, pneumonia, or some pyemic state.

Endocarditis was a sequela of throat infection in $1\frac{1}{2}$ per cent of my cases, and 2 of these, or $\frac{1}{2}$ per cent, were not accompanied by any articular lesion, whatever.

During the active stage of these naso-pharyngeal inflammations, albumen occurred in the urine in 10 per cent of the number. Some of this was nuclealbumen, but in 4 per cent there was a definite nephritis, and 2 of these died of uremia.

Frankel has described a recurrent albuminuria coincident with slight fever, and enlarged post-cervical nodes. One case of this sort occurs in my list. Here, during a period of two years, the patient experienced these phenomena six times. The first sickness was initiated by a chill, fever, sore throat, mild lymphadenitis of the neck, and nephritis. She slowly recovered from the nephritis, but 3 months later, again had a slight fever, a post-nasal inflammation, giving a streptococcic culture, enlarged cervical nodes, and a transient albuminuria for three weeks. This recurred four times during my observation, yet left her in each interim with no signs of chronic nephritis.

In another case of mild nephritis following tonsillitis and erythema nodosum, the character of the albuminuria became *orthostatic*. If the boy lay down, he had no albuminuria or casts; if he stood upon his feet for a day, the albumen and casts returned. This was exaggerated if his work kept him on his feet at night, even though he rested during the day.

A routine examination of the urine of sick infants and children gives surprising results. We are inclined to neglect this practice. It is no uncommon thing to find continued fever in young children, due entirely to a cystitis, or pyelitis, following an inflammatory lesion in the respiratory tract or throat. Even with my inaccurate observations I have recognized that $3\frac{1}{2}$ per cent of these cases had cystitis. Several of this number palpably suffered from a concomitant pyelitis, and were markedly septic for a week or more. None, however, developed a nephritic abscess.

In female children, cystitis seems more frequent than in males, and where an acute gastro-enteritis supervenes as a sequela of the throat lesion, cystitis is to be expected.

No doubt the constant swallowing of purulent

mucus is the direct mode of infecting the gastrointestinal tract. Three per cent of these recorded cases developed acute enteritis. In fact I have tabulated more cases of diarrhea following immediately upon throat infections than from contaminated food.

This is not purely a matter of fancy. Not only do these cases present all the typical throat appearances and lymphatic enlargement, but adult members of the family will be sick at the same time—say, with follicular tonsillitis, or quincy—while the child, obviously, contracting a sore throat, will begin vomiting and terminate with an acute diarrhea, in some cases of pronounced severity.

If you admit the accuracy of these observations, it must be apparent that throat infections are a common cause of disease, and capable of initiating lesions into other organs, either by direct bacterial invasion, or toxic absorption. These complications in lymphatics, joints, skin, heart, kidneys, etc., occurred either during the height of the fever or immediately following its decline, generally within a week of its inception, and always suggested an intimate relation to the infection. Neuritis, myalgia, cholecystitis, otitis media, and other diseases, might well be added to the list of complications, but their relation is not so manifest.

As in the majority of acute infectious diseases, we are practically helpless to cure the condition. We can use protective sera in some cases, and we can employ antiseptics to the infected tissues. I have not found the anti-streptococcic sera of any marked value.

We know the futility of antiseptic applications to erysipelas of the skin, yet we persist in swabbing an inflamed throat, where the submucous tissue is the site of the bacterial invasion, and impossible of penetration by antiseptics. Probably some antiseptics are of value in washing the *surface* of the diseased tissue. I use succinic peroxide in solution, because of its reported strong bactericidal action, and nontoxicity.

With infants, I give it by mouth and a nasal spray in a solution of 1-1500. It seems the best of any antiseptic employed in my treatment. Calomel, and diluent drinks we use through habit.

Fortunately for the patient, antitoxic bodies and protective enzymes are elaborated, quite independent of our fussy medication, and the restoration to the normal occurs.

Where repeated or continuous infection of the lymphoid tissue exists, or any one of its resultants, the post-nasal and tonsillar structures should be removed, as completely and as accurately as possible.

PROPRIETARY PREPARATIONS APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

(Continued from May Journal.)

CHINAPHENIN.

Chinaphenin, CO (NH, C₆H₄OC₂H₅) (C₂₀H₂₃N₂O₂) = C₂₀H₂₃N₂O₄, the quinine carbonic acid ester of phenetidin.

Actions and Uses.—Chinaphenin combines the antiperiodic properties of quinine, with the analgesic power of phenacetin, with the advantage of taste-

lessness and asserted freedom from symptoms of cinchonism produced by the administration of the two remedies in simple mixture. It is recommended in febrile diseases, especially la grippe; in spasmodic conditions, such as whooping-cough; in certain forms of malaria and in neuralgia. Dosage.—Adult: 0.3 to 0.6 Gm. (5 to 10 grains) ordinarily, 1.5 to 2 Gm. (22 to 30 grains), given in two doses as an antipyretic in neuralgia and malaria; in whooping-cough, 0.13 to 0.3 Gm. (2 to 5 grains), according to age. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

CHLORBUTANOL.

Chlorbutanol, 1,1,1-trichlor-2-methyl-propan-2-ol, $\text{CCl}_3\text{C}(\text{OH})(\text{CH}_3)$, $\text{CH}_2=\text{C}_6\text{H}_4\text{OCl}_3$, produced by the reaction of acetone on chloroform.

Actions and Uses.—It is said to be absorbed unchanged, but to be decomposed in the body. It is a local anesthetic with an action weaker than that of cocaine, but sufficient to prevent vomiting from gastric irritation. Its antiseptic action is said to be fifteen times as strong as boric acid. It acts on the central nervous system similarly to chloral, and although the claim has been made that hypnotic doses are without effect on the circulation and respiration, independent observers have described a fall of blood pressure and interference with respiration in animals, and consider it fully as dangerous as chloral. In man 100 grains caused severe symptoms, but recovery occurred. It is claimed that no habit is induced, but this may be referable to its restricted employment. It is recommended as a mild local anesthetic, in dentistry, etc., as a preservative for hypodermic solutions, for insomnia, vomiting and for spasmodic conditions. It is also said to be useful as introductory to general anesthesia, lessening excitement and nausea. Dosage.—The dose is from 0.3 to 1.5 Gm. (5 to 20 grains) dry or in capsules. Hypodermically as a local anesthetic a saturated aqueous solution may be used.

CHLORETONE.

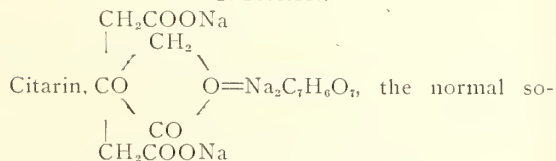
A name applied to chlorbutanol, which see. Manufactured by Parke, Davis & Co., Detroit, Mich.

CHLORETONE INHALANT.

A solution of chloretone, camphor, menthol and oil of cinnamon in liquid petrolatum.

Actions and Uses.—An anodyne, antiseptic, and emollient solution for use by inhalation as a very fine spray or nebula. Manufactured by Parke, Davis & Co., Detroit, Mich.

CITARIN.



dium salt of anhydromethylene-citric acid.

Action and Uses.—This is one of the compounds which it is claimed increase the elimination of uric acid by forming very soluble compounds with that substance. It has been recommended for gout and chronic rheumatism. Dosage.—1 to 2 Gm. (15 to 30 grains), largely diluted with water. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

CREOSTAL.

A mixture of carbonic acid esters, analogous to guaiacol carbonate, prepared from creosote.

Action and Uses.—Cresotal has the same action as creosote, but is claimed to be non-toxic and devoid of irritant properties. It is recommended as a substitute for creosote for internal exhibition in

tuberculosis, pneumonia, and as an intestinal antiseptic. Dosage.—From 0.3 to 2.0 Gm. (5 to 30 grains) for children, to 1 to 4 Gm. (15 to 60 grains) for adults, in milk, coffee, wine, col-liver oil or emulsion. Externally it may be applied undiluted. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). Fabrik von Heyden, Radebeul, near Dresden.

DENTALONE.

A 30 per cent. solution of chloretone in a mixture of oils of gaultheria, cloves and cassia.

Actions and Uses.—Dentalone possesses pronounced anesthetic properties and is intended for use by dentists in the treatment of exposed nerves in decayed teeth. Prepared by Parke, Davis & Co., Detroit, Mich.

DERMATOL.

A name applied to Bismuthi Subgallat, U. S. P. Manufactured by Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

DIABETIN.

A pure, crystallized fructose (levulose), $\text{CH}_2\text{OH}.\text{CHOH}.\text{CHOH}.\text{CO}.\text{CH}_2\text{OH}=\text{C}_6\text{H}_{12}\text{O}_6$, absolutely free from dextrose (ordinary glucose).

Actions and Uses.—Levulose is metabolized in the body by other agencies than those that act on dextrose and most of the other sugars and appears to be more completely utilized by the diabetic organism than the other sugars. It is recommended for the nutrition and for sweetening the food and drink of diabetes, in pulmonary tuberculosis, infantile malnutrition and marasmus. Dosage.—It is given in diabetes in daily quantities of 30 to 60 Gm. (1 to 2 ounces); in grave forms of the disease the amount is reduced from 12 to 24 Gm. (3 to 6 drams) daily. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

DIONIN.

Dionin, $\text{C}_{17}\text{H}_{17}\text{NO}(\text{OH})\text{OC}_2\text{H}_5.\text{HCl}+\text{H}_2\text{O}=(\text{C}_{19}\text{H}_{21}\text{O}_3\text{ClN}+\text{H}_2\text{O})$, the hydrochloride of the ethyl ester of morphine.

Actions and Uses.—It is claimed that this compound acts like morphine without producing constipation, nausea or lassitude. It is the conclusion of some good observers that it possesses no advantage over codeine. Applied to the eye, it causes a local vasodilation, leading to acute conjunctival edema. Dionin is recommended to relieve pain, especially in respiratory affections, as an antispasmodic in whooping-cough, for insomnia and externally in the treatment of corneal affections, conjunctivitis, iritis, etc. Dosage.—0.015 to 0.06 Gm. ($\frac{1}{4}$ to 1 grain). Externally it is applied in 10 to 20 per cent. solutions. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

DIURETIN.

A name applied to theobromine-sodium salicylate, which see. Manufactured by Knoll & Co., Ludwigs-hafen, Germany (E. Merck & Co., New York).

DUOTAL.

A name applied to Guaiacolis Carbonas, U. S. P. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

DUOTONOL.

A name applied to a mixture of equal parts of calcium tonol and sodium tonol. (See Tonols.)

Actions and Uses.—See Glycerophosphates. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

(To be continued.)

OPSONIC INDEX TECHNIC IMPROVED.

To the Editor of the State Journal: The technic necessary to obtain most accurate results in this fascinating line of work is difficult and the various steps present so many opportunities for error, that considerable experience is required before one can secure results valuable for purposes of comparison. The following are a few practical points which, if carefully observed, will bring more uniform results:

1.—Leukocytes concentrated: After first centrifugalizing the blood in the sodium citrate solution, the "creamy" upper layer (containing many leukocytes and a few red cells) is carefully pipetted off and then washed twice in 0.85% salt solution. To avoid injuring the leukocytes in this process, it is necessary to handle the tubes very carefully. This "cream" must be used within an hour or two; the sooner the better.

2.—The serums: For the "normal" serum it is best to take equal volumes of the serum of two or more persons. With a t. b. case only two are necessary. With staphylococcic cases, four or five will suffice, while with colon bacillus cases (on account of great variations in individual colonopsonic power), ten or more will be necessary. For the gonococcus, one serum will do. All serums must be used within twenty-four hours and must be protected from the sun's rays. The earlier the serum is used, the greater will be found its opsonic power, so that in each case the same interval of time should elapse between the preparing of the serum and the mixing of it with the bacterial emulsion. If serum cannot be used right away, it is best to place it in a refrigerator, after which, however, it must be again warmed.

3.—The bacterial emulsion: The best results are had by using a fairly thick emulsion of bacteria. This is particularly true with the staphylococcus. Bottenger's method of removing clumps is very effective. In tubercle bacillus estimations the easiest method is that by which live agar cultures are used (one or two loopfuls thoroughly shaken up in 1.5% salt soln.). A definite amount can be made at one time and kept in the refrigerator when not in use. Such an emulsion will remain effective for at least a week. It must be thoroughly shaken before using each day. The 1.5% salt soln. is used to inhibit spontaneous phagocytosis. Needless to say, great care should be exercised in handling the live culture.

4.—Capillary pipettis: By having them smaller in caliber (diameter of an ordinary pin) and broken off squarely, it is easier to mix the fluids thoroughly without bubbles. Avoid too small pipettes for fear of breaking up the leucocytes.

5.—Sucubate: Exactly fifteen minutes in each case.

6.—The smears: Use a drop the size of two pin-heads so that the smear will not extend to the end of the slide.

7.—Counting: Ordinarily count fifty cells indiscriminately. Where there is much variation in bacterial average, count one hundred cells, or more. It is best to count ten or twenty leucocytes along one edge of the smear and then a like number from the other edge and then change to the middle of the lower part of the smear for the remainder. Always avoid the lowermost edges of the smear.

HARRY EVERETT ALDERSON, M. D.

337 Commonwealth Ave., Boston, Mass.
April 20, 1907.

NOTICE!

We are now compiling the new Directory. Send all changes of address in at once.

TUBERCULAR SYPHILIDE.

(Presented by DR. W. C. HASSLER at the Polyclinic Gathering.)

These two cases presented for your observation are tubercular sypilides. Tertiary lesions or manifestations that present to my mind three interesting points for consideration, one of which is common to both of them. The cases differ from each other in that the one shows an ulcerative destruction of the skin with considerable inflamed area surrounding the patch.

The three points are: First—That of the peculiar location of the origin of the lesion, it having started on the anterior surface of the right tibia; thereafter appearing on the scalp and gradually from thence over the entire body.

Second—The severe destructive form of the lesion occurring six years after undergoing a thorough anti-syphilitic treatment covering a period of two years, and manifesting itself about ten days after the shock and fright concurrent with the earthquake of April 18th.

Third—Peculiarity of treatment administered in that local applications, washes, dusting powders, ointments, etc., are of absolutely no value, and even the specific treatment with iodine frequently fails. The error occurs in not giving the iodides in sufficient quantities, many believing that ten to twenty grains three times a day are large doses. Their effect upon the lesions of this character will be nil, but when the dose is increased to say, forty or sixty grains three times a day, the disappearance of the lesion is manifest within two or three days. Almost immediately after administering the latter dose the itching and pain subsides, and the comfort of the patient increases daily. After experimenting with these two cases for a period of three months with topical applications of all kinds, with no success, the large doses of iodide have almost effected a cure in a period of one week.

A feature worth noting in the case showing the ulcerative destruction is that of a primary infection occurring in a member of the family, who had been caring for the patient. I am not prepared to state positively that it was brought about by the discharges from this lesion, but careful enquiry and investigation would seem to eliminate any other source of infection.

The disturbances to the stomach incident to the treatment with the large doses of iodides will be minimized by prescribing the chemically pure drug and confining the patient to regular habits, especially avoiding alcohol and acids.

RUPTURE OF THE POSTERIOR MENINGEAL ARTERY WITHOUT FRACTURE AT THE POINT OF INJURY.

By H. A. L. RYFKOGEL, M. D.

(Read Before the Polyclinic Gathering.)

The patient, whose case I wish to report, was an Italian about 25 years old, who, on the 26th of December, leaped from a street car in an effort to save his hat, but his foot unfortunately slipped and when he fell his head struck on the rail. He became unconscious and profuse bleeding began from the nose and ear. He was taken at once to the Central Emergency and on the 27th came into my service at the City and County Hospital. At this time the bleeding from the nose had ceased, but there was a slight discharge from the right ear. His temperature was 104 deg., pulse rate 98 and respiration 30. He lay in a fairly deep stupor and paid no attention to any communication that was made to him, no matter how loud. However, he tossed from one side to another when pricked with a pin or pressure was made on the point of injury. On account of the temperature, Dr. Moffit suggested the possibility of men-

ingitis and in an effort to clear up the diagnosis we attempted to make a spinal puncture. But he thrashed around so that the attempt had to be abandoned. At this time he showed a slight ptosis of the left eyelid and some dilatation of the right pupil. The left was normal and both reacted to light. On examining the patient's shaved head, nothing could be discovered except a slight ecchymosis and some slight edema about two inches above and behind the right ear. There was no depression nor any evidence of hematoma at any point in the vault of the skull. Dr. Welty examined the ear and discovered a fracture running across the auditory meatus just outside of the drum, which was torn away. No paralysis was evident. An ice cap was applied to the head. The meatus was wiped out and lightly packed. By the following day he was partly out of his stupor, but he paid no attention to the communications of his attendants, although he did recognize his relatives. He now became much more restless, thrashing about from side to side and throwing the clothes off and making attempts to get out of bed. During the next few days the stupor again returned and the pulse became gradually slower until on the 6th it was below 40. Notwithstanding the fact that no convulsions nor paralysis had appeared, it was decided that the continued and deepening stupor and slowing of the pulse rate were evidence of the increased effects on the brain and demanded operation. There was nothing to indicate the site for trephining except the bruising where he had fallen. Six days after the injury the man was operated upon, just a little in front of the bruised area. On removing the bone an extra-dural clot was seen. The clot was thinner as we cut upward and was partially organized. The wound was enlarged downward and when the clot was removed a spurting artery was seen. It was evidently one of the divisions of the posterior branch of the middle meningeal. The hematoma extended well down toward the base of the skull. It was not deemed wise to attempt to remove it all. During the course of the operation the pulse rate got gradually better. After removing the clot the button of bone was not replaced. The wound was closed with rubber tissue drainage. As soon as the patient came out from the anesthetic he spoke rationally for the first time since the injury. The patient went on to an uninterrupted recovery with the exception that he had a slight dementia. He understood what was said to him and recognized his friends, but the mental reaction seemed to be feeble. This, however, gradually disappeared, but on the 7th day following the operation there developed slowly a paralysis of the facial abducens. About 4 or 5 days after the onset of the paralysis the patient was examined by Dr. Moffit and he demonstrated the usual reactions of degeneration. In another few days he began to improve and at the time of the discharge, 1 month and 3 days after the accident, the paralysis of the external rectus and the facial had almost disappeared.

The interesting feature in the case was the rupture of the posterior meningeal without fracture at the point of injury to the vessel. Numerous cases of this kind have been reported, but very few instances are on record in which primary trephining over the posterior meningeal was done under such circumstances.

Usually the opening has first been made over the anterior branch and on account of the absence of a clot a second opening has been made over the posterior branch.

Kronlein reports a case similar to mine. His patient had no fracture of the vault and showed no external evidence of injury except a slight ecchymosis in the occipital region. He had struck the back of his head against a beer barrel. He trephined over the posterior meningeal and evacuated extensive clots.

HOUSE OF DELEGATES, AMERICAN MEDICAL ASSOCIATION.

The House of Delegates of the American Medical Association met at Atlantic City on June 3. Five sessions of the House were held, two on Monday, one on Tuesday, and two on Thursday. The amount of business transacted was larger than has ever previously come before this body. Dr. W. J. Mayo presided over the House on Monday, and on Tuesday the chair was filled by Dr. Joseph D. Bryant, president-elect, who had been installed at the general session on Tuesday morning. In his president's address, Dr. Mayo emphasized the growth and development of The Journal of the American Medical Association, the work of Dr. McCormack as chairman of the Committee on Organization, and the work of the Board of Trustees. He recommended the consideration of medical education, the work of the Council on Pharmacy and Chemistry, the life insurance examination question, which, he said, should be settled amicably if possible, and the advisability of appointing a committee to expedite the business of the House.

The report of the general secretary showed the present membership of the Association to be 27,515, an increase during the year of 3,879 members.

The report of the Board of Trustees, presented by Dr. T. J. Happel, was a statement of the business of the Association from January 1 to December 31, 1906. The first exhibit was the report of the Investors' Audit Company, a bonded and incorporated auditing company of Chicago, which showed the results of the auditing of the books of the Association. The net income for 1906 was \$325,300.35, of which \$103,076.10 were membership dues, \$87,694.97 subscriptions to The Journal, and \$98,458.85 receipts from advertising. The total expenses for the year were \$293,385.25, leaving a net revenue of \$31,915.10. The detailed report from the subscription department showed the circulation for each week or the year, the weekly average for 1906 being 46,479 copies. A lengthy and detailed report was made on all the business interests of the Association and the work in various departments.

The report of the Council on Medical Education showed that during the past year the following work has been done:

- (1) Collecting, tabulating and publishing the results of State Board examinations.
- (2) Securing, tabulating and publishing statistics regarding medical students.
- (3) Compiling and publishing abstracts of laws and rulings regarding license.
- (4) Co-operating with State Examining Boards, State Committees on Medical Education and medical colleges to secure the adoption of the standard of medical education of the Association.
- (5) Collecting information regarding medical colleges through reports and through a systematic inspection.
- (6) Obtaining information regarding proposed changes in medical practice acts and rendering any possible assistance to State boards or State societies in obtaining improved legislation.
- (7) Obtaining information regarding reciprocity and securing reports of licenses issued on that basis.
- (8) Collecting all possible information regarding medical education.

This report was referred to the Reference Committee on Medical Education, which, in its report, approved the compilation of tables showing the standing of the various colleges, as well as the personal inspection of medical colleges, undertaken by the Council. The committee recommended that all medical schools be annually inspected for the next three years. The committee also approved the report of the Council regarding existing medical schools, emphasizing the following points: The minimum preliminary educational standard to be suffi-

cient education to enable the student to enter the freshman class of a recognized university or college; this minimum to be increased as soon as possible by adding physics, chemistry, biology and one modern language; four years' work of thirty weeks and thirty hours per week to be regarded as the minimum amount of time for a medical course. The committee endorsed the action of the Council in refusing to recognize night schools or schools conducted solely for profit. It urged the Association to ask the State licensing boards to make an annual inspection of the medical schools in their State and to refuse to license undergraduates. The principle of reciprocity was endorsed, as well as the annual conference held by the Council, which the committee recommended should be composed of delegates from each State licensing board and from each State medical society. The report was unanimously adopted.

Dr. J. N. McCormack presented the report of the Committee on Organization, showing that since the Boston session he had worked in Michigan, Ohio, Alabama, New Jersey, Arkansas, Iowa, Nebraska, Florida, Pennsylvania, Virginia, West Virginia and Kentucky. Regarding post-graduate study course, he stated that such a course was now being prepared for distribution and criticism, and that it would later on be ready for distribution to county societies desiring to take up this work. He emphasized the necessity of the Association educating the public to a proper conception of the work of the organized profession. He also reported on the matter of branch associations, recommending the organization of seven branches, composed of the various State associations. The advisability of State associations meeting in the fall was also considered.

Dr. John G. Clark presented a report of the Committee on the Establishment of a Board of Public Instruction. This committee, appointed at Boston last year, recommended the establishment of a board of public instruction on medical subjects, which should endeavor to educate the public through the press, through the distribution of pamphlets, through public lectures and circular letters.

The Reference Committee on Amendments to the Constitution and By-laws reported favorably on four amendments. The first one provided that members of the Board of Trustees should not be eligible as members of the House of Delegates. The second provided that the members of the Judicial Council should be appointed for one year instead of one member being appointed each year for five years. The third amendment provided for associate membership for representative teachers and students of science allied to medicine not eligible to regular membership, such associate membership to be on the same plane as dental and pharmaceutical members. The fourth amendment provided that the general officers or the officers of a section might invite representative teachers or students of science allied to medicine and distinguished physicians of foreign countries to attend an annual session and take part in the scientific work as the guests of the Association, such connection to last only during the session for which the invitation was issued. These four amendments were all unanimously adopted.

The Committee on Scientific Research recommended that the Board of Trustees make four grants for 1907, as follows: (1) Dr. G. F. Reudiger, Chicago, for a continuation of his work on the bacteria of scarlatinal and normal throats; (2) Dr. H. T. Ricketts, Chicago, for a further study on Rocky Mountain spotted fever; (3) Dr. Richard M. Pearce, Albany, for a study on proteid soap compounds; (4) Dr. J. N. Wainwright, Scranton, for experimental work on carcinoma.

The Committee on Insurance then reported as follows:

"Your committee begs leave to present as its report:

"(1) The preliminary report of the committee published in The Journal of the American Medical Association, December 8, 1906.

"(2) A letter from Dr. Mayo, the President, which accompanies that report.

"Further than this, notwithstanding various efforts to arrive at other conclusions, the committee has nothing further to report and asks that it may be discharged."

Dr. Hubert Work of Colorado offered the following resolution:

"Resolved, That this Association cordially approves the report of the Committee on Insurance and urges on county societies such wise and conservative action in accordance with its spirit as will protect the interests of the humblest competent member of the organization."

The report and resolution was referred to the Reference Committee on Reports of Officers.

Dr. R. C. Cabot of Massachusetts offered a preamble and resolutions providing that control of rabies be placed under the supervision of the Bureau of Animal Industry and of the State Cattle Commission; that all dogs wear a distinctive form of collar, and that all unlicensed dogs be promptly captured and disposed of; that unrestrained dogs be muzzled for at least one year, and that dogs imported from other countries be quarantined for at least one year. These resolutions were approved by the Reference Committee on Legislation and Political Action and were adopted by the House.

Dr. Winn read the report of the Committee on Scientific Exhibit, emphasizing the growth and value of this feature and recommending that hereafter certificates of merit be awarded to the three exhibits most entitled to recognition.

The report of the Reference Committee on Reports of Officers was then read. As this report is really a summary of the entire year's work of the Association and its officers, it is given herewith in full:

Reference Committee on Reports of Officers.

Dr. Philip Mills Jones, California, read the report of the Reference Committee on Reports of Officers.

I. President's Address.

(a) Medical Education.

We endorse opposition to the course of certain physicians in organizing or conducting incompetent medical schools, and we believe that the moral weight of this Association, together with the publicity which will eventually follow the work of the Council on Medical Education, will secure the proper uplifting of medical education in the United States. The honest activity of the various boards of examiners, co-operating with the Council, will be of inestimable value in securing this result.

(b) Council on Pharmacy and Chemistry.

We most earnestly commend the work of the Council on Pharmacy and Chemistry and the President's views thereon, and we commend to the Board of Trustees the further and permanent continuance of this work. We most strongly recommend that the members of this Association confine their prescriptions to articles contained in the United States Pharmacopeia, the National Formulary, or such as have been approved by the Council on Pharmacy and Chemistry.

(c) Fees for Life Insurance.

We endorse the report of the Insurance Committee and believe that a minimum fee of five dollars

for life insurance examinations is just and fair, and we deprecate the organized effort of certain companies to compel the acceptance of a lesser fee. While it would seem desirable for county societies to take cognizance of this matter, we further deprecate the exercise of any harsh or coercive measures directed against individual members. We also agree with the view that present differences will eventually be amicably adjusted. We concur in the recommendation that the committee be discharged.

(d) Reference Committees.

We endorse the recommendation referring to committees, and recommend that the various reference committees be appointed two months in advance of the annual meeting, and that the reports be referred to these committees early enough for consideration.

II. Report of General Secretary.

We sincerely commend, and heartily approve, the work of the General Secretary as set forth in his report, and we believe that the growth of the Association and the development of The Journal and its plant are largely, if not entirely, due to his indefatigable efforts.

III. Report of the Board of Trustees.

Any organization or corporation transacting business can only be successful so long as its affairs are conducted in a careful and up-to-date businesslike manner, and it is with pleasure that we note the essentially thorough and businesslike manner in which the Trustees have conducted the affairs of this Association. We believe that the statement of audit is sufficiently definite and comprehensive, and that to make public further and more intimate business details would be unwise and poor business policy. We consider the publication of the American Medical Directory, the compilation of data relative thereto, and of the graduation and licensure of physicians in the United States, undertakings of the greatest value to the Association and to the entire medical profession; and we consider the financial status of this portion of the Association work to be eminently satisfactory.

IV. Report on Organization.

We recommend that Dr. J. N. McCormack be requested by the Trustees to continue his most valuable work with the profession, and the laity, in this country.

(a) In the matter of the proposed postgraduate work, we recommend that the Trustees appropriate six hundred dollars for this purpose.

(b) We consider that active work in county societies is of the greatest value to the medical profession of this country, and we earnestly recommend that every effort be made to stimulate interest and activity in county society work.

In the matter of the proposed branch associations, we recommend that this report on branch associations be referred to the state associations by the General Secretary, with an urgent request for an expression of their views, to be presented to this Association at the next annual meeting.

We offer the following:

Whereas, The Council on Pharmacy and Chemistry, after examining many hundreds of preparations, has officially announced its approval of a large number of such preparations; and

Whereas, We believe that the editors of many medical journals in this country, both official organs of State Associations and privately owned journals, are desirous of co-operating in the work of freeing the medical profession from the nostrum control; therefore, be it

Resolved, That this Association most earnestly requests all medical journals to refuse to aid in promoting the sale of preparations which have not been approved by the Council, by refusing advertising space to such preparations; and be it further

Resolved, That we most earnestly request the moral and financial support of our members for those medical journals, whether privately owned or controlled by medical organizations, which disregard commercialism and stand firm for honesty and right dealing, thus sustaining

the Council in its greatest work for the medical profession.

In conclusion, your committee believes that all of the officers of this Association have served is well and faithfully, and we, therefore, move the adoption of the following:

Resolved, That the thanks of the Association be extended to the President, the General Secretary, the Board of Trustees and other officers for their valuable and efficient services.

W. T. SARLES,
PHILIP MILLS JONES,
W. W. RICHMOND,
DONALD CAMPBELL,
A. JACOB, Chairman.

Dr. Lund presented a resolution from the Section on Surgery and Anatomy, asking for the appointment of a committee of five to be known as the Anesthesia Commission, to devote five years to the accumulation and analysis of data, regarding anesthetics, and to render an annual report to the Section on Surgery and Anatomy. This resolution was approved by the Reference Committee on Sections and Section Work and was referred to the Trustees for appropriation.

The Section on Pharmacology and Therapeutics recommended that a committee of six be appointed to collect suggestions on desirable changes in the Pharmacopeia and that a certain sum be appropriated to pay the expenses of the committee. This was also referred to the Board of Trustees.

The election of officers resulted as follows:

President—Dr. Herbert L. Burrell, Boston.

First Vice-President—Dr. Edwin Walker, Evansville, Ind.

Second Vice-President—Dr. Hiram R. Burton, Lewes, Del.

Third Vice-President—Dr. George W. Crile, Cleveland, O.

Fourth Vice-President—Dr. W. Blair Stewart, Atlantic City, N. J.

General Secretary—Dr. George H. Simmons, Chicago.

Treasurer—Dr. Frank Billings, Chicago.

Trustees—Dr. T. J. Happel, Trenton, Tenn., re-elected (1907-1910); Dr. W. W. Grant, Denver, Colo., re-elected (1907-1910); Dr. Philip Marvel, Atlantic City, N. J., re-elected (1907-1910).

The other members of the Board are—Dr. E. E. Montgomery, Philadelphia, Pa. (1908); Dr. A. L. Wright, Carroll, Ia. (1908); Dr. H. L. E. Johnson, Washington, D. C. (1908); Dr. M. L. Harris, Chicago, Ill. (1908); Dr. Wm. H. Welch, Baltimore, Md. (1909); Dr. Miles F. Porter, Fort Wayne, Ind. (1909).

The following nominations for committees were then made by the President and confirmed by the House of Delegates:

Committee on Medical Legislation—In place of Dr. W. L. Rodman, Dr. C. S. Bacon, Illinois.

The other members of the Committee are—Dr. C. A. L. Reed, Cincinnati, O., Chairman (1909); Dr. Wm. H. Welch, Baltimore, Md. (1908).

Council on Medical Education—In place of Dr. Charles F. Frasier, Dr. James W. Holland, Pennsylvania.

The other members of the Council are—Dr. Arthur Dean Bevan, Chicago, Ill., Chairman (1909); Dr. W. T. Councilman, Boston, Mass. (1910); Dr. J. A. Witherspoon, Nashville, Tenn. (1911); Dr. Victor C. Vaughan, Ann Arbor, Mich. (1908).

Committee on Transportation and Place of Session—Dr. M. L. Harris, Chicago; Dr. E. Eliot Harris, New York; Dr. W. A. Jayne, Denver; Dr. W. T. Sarles, Sparta, Wis. Dr. John C. Munro, Boston, is Chairman of this Committee.

Committee on Organization—Dr. J. N. McCormack, Bowling Green, Ky.; Dr. George H. Simmons, Chicago; Dr. Philip Mills Jones, San Francisco.

Board of Public Instruction on Medical Subjects—

Dr. J. G. Clark, Philadelphia (1907-1911); Dr. F. F. Simpson, Pittsburg (1907-1911); Dr. Frank Billings, Chicago (1907-1910); Dr. George H. Monks, Boston (1907-1910); Dr. L. S. McMurtry, Louisville, Ky. (1907-1909); Dr. Howard Kelly, Baltimore (1907-1909); Dr. L. Emmett Holt, New York (1907-1908).

Judicial Council—Dr. C. E. Cantrell, Texas; Dr. R. C. Cabot, Massachusetts; Dr. G. W. Guthrie, Pennsylvania; Dr. Thomas McDavitt, Minnesota; Dr. Charles J. Kipp, New Jersey.

COUNTY SOCIETIES.

SANTA CLARA COUNTY.

This Society held a special meeting at Gilroy on May 31st with an attendance of twenty-six physicians from Santa Clara and San Benito Counties. The physicians at Gilroy had charge of the meeting and several interesting topics were discussed, as well as a paper presented by Dr. Jonas Clark of Gilroy. Dr. Clark's paper was on "A Remarkable Case of Dermoid Cyst." After the meeting adjourned, those present were given a sumptuous banquet by the local physicians and a joyous good time was had, and it was with regret when it came time for us to depart for our homes.

The special meetings we now hold are becoming more and more looked forward to as the increase in attendance testifies.

Faternally yours,

K. C. PARK, Secretary.

PLACER COUNTY.

The Placer County Medical Society held its regular meeting in the Masonic Hall, Colfax, on the evening of June 8th.

Members present—Drs. R. F. Rooney, M. Schnabel, J. T. Jones, J. H. Mules, A. T. Hembree, R. A. Peers and G. H. Fay.

After the regular business of the Society had been attended to the members listened with great pleasure to a very able paper on the treatment of Erysipelas by Dr. Schnabel. The paper was freely discussed by all present. Dr. Jones presented two interesting specimens. One, a case of double congenital dislocation of the hips with cystic kidney and imperforate anus, the rectum emptying into the bladder. The child, a girl, lived about an hour after birth. The other specimen was an organized blood clot that had resulted from a ruptured tubal pregnancy. It had been carried in the abdomen for nearly eight months. The members then partook of a bountiful lunch provided by Dr. Peers.

The next meeting will be held in Colfax on the first Saturday in August.

G. H. FAY, Secretary.

SAN JOAQUIN COUNTY.

The regular meeting of the San Joaquin County Medical Society was held May 31, 1907, at the residence of Dr. R. R. Hammond. Members present: Drs. J. D. Dameron, J. P. Hull, S. W. R. Langdon, J. J. Tully, R. R. Hammond, D. F. Ray, C. R. Harry, Margaret H. Smyth, Mary Taylor, Minerva Goodman and B. J. Powell.

Dr. Hammond read a paper on "Quarantine" and urged that there be some understanding with the fraternity as to the proper length of time for quarantine especially for diphtheritic cases. The paper was freely discussed and Dr. Ray made a motion to the following effect: That all cases of diphtheria be quarantined for a minimum time of two weeks after the diphtheritic membrane has ceased or until such time that a bacteriological examination proves the disappearance of the Klebs-Loeffler bacillus.

The secretary was instructed to send notices to all the members of the Society that such action had been taken. The secretary was further instructed to ascertain from the members what insurance companies they were examining for and what fee they were receiving, so that in the future we could do our utmost to demand the \$5.00 fee for life insurance examinations. After a banquet the Society adjourned to meet with Dr. Dameron in June.

BARTON J. POWELL, Secretary.

PUBLICATIONS.

The International Medical Annual: A Year Book of Treatment and Practitioners' Index. 1907. Twenty-fifth year. New York. E. B. Treat & Company. Price \$3.00.

It is but a short time since the previous (belated) volume of this annual publication received commendation in these columns. What was said of its merits then might truthfully be repeated now. The book contains in a convenient form a condensation of a very large quantity of medical literature. The work rises often above the level of mere mechanical compilation, as it is generally done by men who practice what they write about. The Annual will be found useful for reading as well as for occasional reference. It will serve those well who have not access throughout the year to a large number of medical journals and those whose patience or zeal is insufficient to cope with the prolixity of many writers. By its aid the laggard may be brought speedily abreast of the times; in a few hours we may acquire some knowledge of Opsonins, Ductless Glands, Spirochetæ, and numerous other surgical and medical matters. Dr. Johnson said on a certain occasion: "If it rained knowledge I'd hold out my hand, but I would not give myself the trouble to go in quest of it." He who is similarly minded may obtain information here almost as easily as if it were pluvially conveyed.

A Text-Book of Human Physiology. By Dr. Dobert Tigerstedt, Professor of Physiology in the University of Helsingfors, Finland. Translated from the Third German Edition and Edited by John R. Murlin, A. M., Ph. D., Assistant Professor of Physiology in the University and Bellevue Hospital Medical College, New York City. With an Introduction to the English Edition by Professor Graham Lusk, Ph. D., F. R. S. (Edin.) New York and London: D. Appleton & Company. 1906.

The recent advances made in physiology have revolutionized the subject to such an extent that the physician must constantly review the newer work. He will find for this purpose no better book of its size than Tigerstedt's Physiology, which gives a complete, succinct, and excellent view of the subject to date. Of the text, the chapters on Metabolism and Nutrition, and Circulation, are especially worthy of consideration, as it is in the investigation of these particular problems that the author has gained much of his reputation. In the portion devoted to Digestion he cites and reviews the latest and most important work done on this subject. The physiology of the Nervous System has actually been made entertaining reading and is most comprehensive in its scope. The work cannot be too highly recommended. The post-graduate will find it of great value, while the general practitioner will welcome its good arrangement, illustrations, and ease of references. J. B. F.

A Text-Book of Pathology. By Alfred Stengel, M. D., Professor of Clinical Medicine, University of Pennsylvania; Physician to the Pennsylvania University and the Philadelphia Hospitals. Fifth Edition. Thoroughly Revised. Philadelphia and London. W. B. Saunders Company. 1906.

The recent advances in Pathology have necessitated a thorough revision of this favorably known text-book. While the original plan of the work has been preserved, the revision has made necessary many important changes. Thus, a large portion of the sections dealing with General Pathology have been reconstructed, and the chapters on Inflammation, Immunity, and Animal Parasites have been almost entirely rewritten. Such alterations bring the volume up to date and there is little doubt that its popularity as a text-book for students and practitioners will remain unabated. A. J. L.

Essentials of Human Physiology. By D. Noel Paton, M. D., B. Sc., F. R. C. P., Ed. Superintendent of the Research Laboratory of the Royal College of Physicians of Edinburgh; Lecturer on Physiology School of Medicine of the Royal Colleges, Edinburgh; Examiner in Physiology in the University of Glasgow and for the Royal College of Physicians, Edinburgh, and late Examiner in the University of Edinburgh. Second Edition. Revised and Enlarged. Chicago: W. T. Keener & Co. 1905.

The criticism has often been made that the average text-book of physiology is written too much from the standpoint of the pure biologist and with too little regard for the wants of students of human medicine. In his book, Dr. Paton, on the other hand, puts before medical students as succinctly as possible the essential facts of human physiology, and emphasizes specially those parts of the science which are of cardinal importance in medicine and surgery. Therefore many parts which occupy considerable space in the ordinary text-books have been relegated to minor positions, while parts which have a direct bearing upon the study of medicine have been purposely given a prominence which their importance, when viewed from the purely scientific standpoint, would hardly warrant. The practical and theoretical study have been brought also into closer relationship by constant references to the practical work as described in some such work as Shafer's Class Work in Practical Physiology and in Paton's Practical Course of Elementary Chemical Physiology. Otherwise the arrangement and illustrations are about the same as those usually seen in such text-books. A. J. L.

Golden Rules of Pediatrics: Aphorisms, Observations and Precepts on the Science and Art of Pediatrics. By John Zahorsky, A. B., M. D., Clinical Professor of Pediatrics, Washington University Medical Department, St. Louis; Ex-President of the Bethesda Pediatric Society; Attending Physician to the Bethesda Foundlings' Home, etc. Introduction by E. W. Saunders, M. D., Professor of Diseases of Children and Clinical Midwifery, Washington University, etc. St. Louis: The C. V. Mosby Medical Book Co. 1906.

This interesting little book on pediatrics consists of aphorisms and precepts on the essential practical points of the subject. While nothing new is added, the manner of presentation is clear and forceful. Some statements are made which are at variance with those of many authorities; notwithstanding the volume is so full of personal views that it assumes all the greater interest and usefulness. Most general practitioners and all students may read the book with much profit to themselves and their patients. A. J. L.

Pulmonary Tuberculosis, Its Modern and Specialized Treatment. By Albert Philip Francine, A. M., M. D., of the Staff of the Henry Phipps Institute, Philadelphia; Examining Physician to the White Haven Sanatorium; Instructor in Medicine and Physician to the Medical Dispensary of the University of Pennsylvania; Medical Registrar to the Philadelphia Hospital. Illustrated. Philadelphia and London: J. B. Lippincott Company. 1906.

There is no chronic disease requiring more persistent and watchful care, more absolute personal control on the part of the physician, than does tuberculosis. It is therefore not surprising that the care of tuberculous patients should have become a specialty. From the days of whiskey, cod liver oil, and innumerable drugs, the pendulum swung to the almost equally pernicious theory of the futility of all drugs and special remedies. The reaction from these extreme positions has given us the present therapeutic methods, and the volume now before us is the story of this modern and specialized treatment.

At the outset Dr. Francine reviews some of the important bacteriological and pathological factors inseparably connected with the therapeutics of the disease. He very properly considers, and lays great stress on, the role of concurrent pyogenic infections on the course of pulmonary tuberculosis. Years ago Prudden experimentally showed the influence of such infections in the formation of cavities, and some authors, notably Ortnier, Schabad, Sata, and many of the French writers, go so far as to ascribe to them all, or nearly all, acute processes in pulmonary phthisis. Contrary to the opinion of Frankel, and Troje, and Schroeder, and Mennes, Dr. Francine agrees with the first named observers, and believes that the whole question of therapeutics resolves itself, broadly speaking, into combating and counteracting the effects of superadded infections. The hectic fever, rapid pulse, sweats, chills, etc., he thinks, arise principally from this factor. This seems to us an extreme view for it is not difficult to show that some of the acute exacerbations are produced by the tubular bacillus alone.

Having discussed this and other points of pathology the author passes from general discussions of such questions as rest, fresh air, exercise, climate, and diet, to the consideration of the curative and diagnostic uses of tuberculin, and the employment of anti-streptococcic and anti-streptolytic sera. The opsonic method is merely touched upon. Other sections follow on the symptomatic treatment of the patient, prophylaxis, and finally the volume terminates with a brief account of the methods of study and treatment at the Henry Phipps Institute of Philadelphia.

Original in nothing but in its simplicity, the book contains a complete and yet brief account of the achievements of modern medicine in the treatment of pulmonary tuberculosis. The special clinical experience of the author enables him to give much information of a very practical nature; this side of the work will appeal particularly to the general practitioner and student of medicine. A. J. L.

The Practice of Obstetrics, in Original Contributions by American Authors. Edited by Reuben Peterson, A. B., M. D., Professor of Obstetrics and Gyn. in University of Michigan. Ann Arbor, Mich., etc. Lea Brothers & Co. 1907.

A new volume, The Practice of Obstetrics, edited by Reuben Peterson, and forming one of the Practitioner's Library of Lea Brothers, has been sent to us for review. It is a single book of about one thousand pages with a number of new cuts as well as a lot of old familiar faces. Being a compilation, it lacks unity and definiteness. Every statement seems more or less of a compromise and it will give many lines of treatment without stating a prefer-

ence. For this reason and its size it is unfitted for student use. It is very poor in its description of normal labor, dealing almost entirely with the abnormal and pathological. As an example, there is no description of labor in the dorsal position, which is the common one in the United States. Nor is it always happy in its description of a normal case, and to follow its guidance would be unwise. It is not a book by which to practice, but a very valuable reference volume.

There are some errors that will need correction in a future edition. For example, the foetal heart beat was first heard by Mayer of Geneva, Bibliothèque Universelle de Geneva, 1818, and not by Major. A sign of pregnancy is the Rasch not the Rash. Some discrepancies appear, as when on page 27 it says "ovulation and menstruation are synchronous," and on page 142 we see that "ovulation is not confined to any portion of the month, may be independent of menstruation," etc. The normal sinking of the uterus is said to begin at the 36th week on page 145 and on page 199 it is to be "noted as early as fourteen days" before the end of gestation.

Some peculiar statements are to be found, as on page 973, where it reads, "some advise that just before closing the abdominal wound the omentum should be drawn down behind the uterus so that adhesions cannot form." What is probably referred to it the suggestion of Kelly that it be drawn down behind so that adhesions may form and any future operations be extraperitoneal. So also the formation of the amnion is assumed to be by a vacuolization process. Phlegmasia alba dolens is spoken of as if it were frequently nonseptic, which must be a rarity indeed.

There are a few strange things. We can hardly be brought to believe that "women who are predisposed to placenta previa are often found to be those who overtaxed themselves about the time of conception," or, that an assistant is required, in any normal case, to press down the fundus and so force the posterior shoulder well down upon the perineum that the anterior may escape first.

There are some omissions for a work of this size. The Dublin method of placental expression is not mentioned, but the Crede is, described as the former. Everywhere placental tissue and membranes are thought to be equally dangerous in sepsis or hemorrhage when retained. In the treatment of engorged breasts nothing is said of saline purgation to reduce the quantity of the milk. Douching is advised in post partem bleeding, but the addition of acetic acid is ignored; and while the obsolete formalin treatment for sepsis is in evidence there is not a word about the iodism of the patient. Among the contra-indications for the use of the forceps we fail to find any mention of a contraction ring nor how long the waters had been drained off. The method of Monro Cameron to control the bleeding in section by the use of the pessary is not mentioned, nor the blunt hook.

The mechanism of the shoulders is found on page 194, where a controversy as to which is first receives recognition and the normal is considered to be the posterior first; yet the cut on the page before is the reverse, and on page 248 the teaching is to deliver the anterior first, even if pressure from above has to be used by an assistant to get it. Perret's head measurements are said to give "surprisingly accurate results," and yet the whole subject of pelvimetry is decried as of little value.

Personally, I think that the advice to prevent laceration of the perineum, by upward pressure by a finger in the rectum, is absolutely wrong and pernicious and exactly calculated to produce that very result. On page 273 we are told that catheterization should be done by "the physician in the absence of a trained nurse." I should dislike to think that I was not as able to do this as a trained nurse, nor do I think it is her business to perform this or any other surgical procedure. This is not coupled with any warning not to begin its use too soon. When he states that "of all obstetrical complications post partem hemorrhage is most amenable to treatment" it has not been my fortune to come to that conclusion, nor do I agree that constipation will not raise the temperature after labor, for I have too often seen it simulate sepsis absolutely. Again, "the use of a sharp curette is seldom wise in obstetrics" and I am willing to go further and say that it is contraindicated. The milking of the breast, following the late Prof. Budin, is condemned as being painful and causing traumatism, whereas in careful hands that is not the rule. Personally, I can see no advantage and some disadvantage in inserting the sutures before the completion of the third stage in lacerations, nor do I share in the optimistic view that they all practically heal by first intention. Altogether too much space is given to the cranioclast and almost nothing to the basiotribe and too much space is given to the again abandoned symphysisotomy and not a word to the modern hebotomy. The misconception of the forcep, when applied reversed, is not condemned and the advice is given to knead the womb in the third stage to prevent hemorrhage. The advice to strip the cord before tying always seemed to me absurd, if not dangerous, and he treats gonorrhoeal ophthalmia too vigorously. An adult eye, much less a baby's, would not stand it.

The chapter on diagnosis of pregnancy is complete and good. Here at last is a book that it not afraid to condemn the maternal impression superstition as well as milk fever and the midwife practice. It is right in the slight danger of quinine in the pregnant woman, but it is doubtful if malaria should be classed as a cause for post partem hemorrhage, rather the contrary.

The chapters on sepsis, insanity, eclampsia and ectopic gestation are essays well worth careful reading, and reclaim the book from mediocrity. It is a volume well worth the money, not to follow in practice, but to have at hand a concentrated reference volume of the pathological.

R. C.

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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

AUG., 1907.

No. 8

EDITORIAL NOTES.

As a rule, your editor objects to the personal tone in editorial matter and carefully avoids it.

TAKE A You may search in vain through the
VACATION. pages of your JOURNAL for a single reference to the editor of any journal, by name. To refrain from

personal mention of, or attack upon, the editor of another publication, by name, is about the first unwritten law of general journalism; it is almost invariably violated by medical editors, for some peculiar reason. That is merely incidental, however, to the subject in mind and will be considered all by itself, some day. Your editor, "This 'yere Jones," "Jones," or "Brother Jones" (Oh slush!), all of which expressions are quotations from our various "esteemed contemporaries" and are, presumably, supposed to be either sarcastic or commiserating, has just returned from a *real* vacation. For the first time in more than a decade, he deliberately, and with malice aforethought, left his office, stole away and got lost in the redwoods, and *played*, really and truly *played*, for nearly three weeks! It took a good deal of auto-persuasion to do it, but the result was well worth the struggle. Have you tried it? If not, do it by all means; if you have, then you can realize, and sympathize with, the feeling of absolute rest that comes when you do not know what is happening elsewhere—and don't care; when you refuse to worry or be worried about anything in Heaven or on earth; when cares and burdens slough

off and you get right down to good old Mother Nature and renew your strength and your youth. Many men in many publications, lay and medical, have preached the necessity for taking a vacation, an absolute rest, every year; yet few of us ever act upon this that we know to be good, sound advice. More than all others, the physician, whose life work is a never ending succession of nerve-racking cares and responsibilities, should seek this entire freedom from them that can only come by getting near to the heart of all things—Nature. These few words were begun with the intention of making them an apology, but they seem to be drifting toward a sermon!

If you, whose eye happens to glance at this, are one of the several hundreds of people who have written to the editor or the secretary or the JOURNAL during the past three weeks or so and has had no reply, please consider the foregoing

PLEASE FORGIVE.

sermon on taking a vacation and forgive the apparent inattention to your missive. In going over the mail, quite a number of letters more or less like this have been found: "On (such a date) I wrote you asking whether Takethemon's Spoopjew had been approved by the Council on Pharmacy. As yet I have not had any reply. Please let me hear from you at once." Please forgive! He to whom you wrote was away, trying to forget (and succeeding remarkably well!) that such predatory creatures as proprietary manufacturers existed and that they had forced the formation of a Council; forgetting the hypocrisy of the medical (?) journal craft (it ought to be spelt "graft") in taking a physician's honest money and then foisting upon him advertisements of worse than worthless nostrums. Somebody once said that "the world is a pretty good place—except for the people in it." Get away from most of them, and then you come to realize that there are a good many pretty decent people in the world after all. So there you are, and here is the end of the apology and the "heart to heart talk with the Lady from Philadelphia."

A very important ordinance of the city and county of San Francisco seems to have been overlooked for some time, and is

IMPORTANT ORDINANCE.

brought to our attention by the San Francisco County Medical Society, with the request that it be given publicity. Apparently the ordinance was approved some five years ago, but unless we are greatly mistaken it has not been called to the attention of the medical profession in that city. It would be well for other communities to enact such an ordinance, if they have not done so, or to enforce the order if it should be found to exist:

"*Whereas*, Experience demonstrates that varioloid is frequently mistaken for varicella, and many lives thereby imperiled; therefore

"Be it ordained by the people of the City and County of San Francisco as follows:

"Section 1. Every physician practicing in this city and county shall report in writing to the health officer every case of varicella or chicken-pox of which he may have professional knowledge, within twenty-four hours after he shall be satisfied of the nature of the disease.

"Section 2. Any person violating the above provision shall upon conviction thereof be guilty of a misdemeanor and shall be punished by a fine not exceeding \$500, or imprisonment in the county jail for not more than six months, or by both such fine and imprisonment."

The demand for reprints of the article on the Viavi Treatment and its Promoters is steadily growing. Already several thousand copies **THE VIAVI** have been distributed, and we shall **REPRINTS.** be glad to furnish copies as required.

Collier's Weekly for July 13th printed some editorial comment on our article and the manner in which the Law brothers at once sought newspaper assistance—through the advertising pages—thus, presumably, illustrating the principle of the "red clause" and putting a stop to any general criticism of their dope, their methods or their business. This article has resulted in a large number of letters from all parts of the country, most of them asking for copies. How much good this work will do in the long run remains to be seen, but certainly some people are getting enlightenment on what *Collier's* calls "that ingenious and widespread fake, the 'Viavi' system of curing disease." If the "Viavi" system of treatment is not a fake, then there will have to be invented some other word to decorate the English language. See to it that a copy of this article is placed before every clergyman in your vicinity and every other influential citizen; then if the people desire to be faked, the responsibility is theirs.

The JOURNAL has had occasion once or twice before to refer to the matter of book reviews. We believe that careful and critical **BOOK** analyses of new books are of great **REVIEWS.** benefit and interest to our readers, but that casual and always boosting notices are an imposition. For this reason great care is taken to secure the co-operation of well qualified men to do this very important work. If it is worth doing at all, it is, like any other work, worth doing well. It would be foolish to ask or expect a busy man to give up his own work and devote many hours or days to the careful and conscientious study of the merits or demerits of a new book; and we do not desire to print anything less than this. Largely for this reason, our book reviews are often delayed, in the publication, several months after the books themselves have been sent us; and some publishers seem to become impatient. To them we would respectfully urge patience. If they believe that our idea in regard to a proper book review is wrong, and that only the printed notice which most publishers supply for the "convenience" of over-

worked editors is sufficient, why, then, we would suggest that they refrain from sending us their books to be reviewed. If, however, they consider, as we do, that a critical review of a new book, such as the JOURNAL aims always to put before its readers, is a very valuable thing for the publisher, then we shall be glad to continue to receive publications as they are issued. But it must be distinctly understood that the mere sending to us of a volume binds us to nothing. If the book in question is considered unworthy of notice it will be ignored. If it is the "steenth" edition of a work that has been reviewed many times and contains nothing new of note, it will receive scant attention. If it is a new and important addition to medical literature the publisher may rest assured that in due course of time we will issue the conscientious criticism of some man who is competent to pass upon it, and that the criticism will be of value not alone to our readers, but to the publisher and the author as well.

THE SUPREME COURT AND THE ARWINE CASE.

Whenever some disgruntled applicant for a license to practice in this state brings suit against the Board of Medical Examiners, there are various and sundry who hurrah! loudly; and when such an one happens to be successful in the lower court, either through the ignorance or the haste or the friendly feeling of the presiding jurist, the hurrahs! increase until the sound is almost overpowering. And also there is much rejoicing in sundry alleged newspapers which, for reasons best known to themselves, are always glad of an opportunity to say something nasty about the medical profession or those members of it who are striving to uplift its standards and thus secure better protection for the public; the *Los Angeles Times* is one of these. One James T. Arwine brought suit against the Board of Medical Examiners, along in the latter part of last year, to compel them to issue to him a license to practice medicine in this state, the Board having refused to grant such license for the reason that the credentials of preliminary and medical education of the plaintiff did not comply with the standards required under the act regulating the practice of medicine. The case was brought in the District Court of Appeal for the second district (Los Angeles) and said court granted the mandamus, in its decision reversing a previous decision of the Supreme Court of this state which sustained the constitutionality of the medical law. (See the JOURNAL, February, 1907, page 19). Some newspapers took the matter up and greatly rejoiced that the medical law had been "kneeled out." This was a trifle premature, and at the time we said so; but, nevertheless, a goodly number of our members were much perturbed and wrote asking for particulars. The settlement of these things by old Father Time is somewhat slow, to our way of thinking, but it is mighty sure, and now has come the settlement of this particular thing. The law has again been sustained.

The whole case really hinged upon that provision

of the law which fixes the requirement of a medical college whose diplomas may be recognized by our Board of Medical Examiners. In order that the whole matter may be clearly before you, it seems well to make some extracts from the decision of the Supreme Court, in bank, July 8, 1907.

"The application was originally made to the District Court of Appeal for the second district. The matter was submitted for decision to that court upon the affidavits filed by plaintiff at the institution of the proceeding and the verified answer of the defendants thereto. That court gave judgment for the plaintiff, directing the issuance of the writ as prayed. In its opinion, that court found as a fact that plaintiff had successfully passed the examination required by the provisions of the act for the regulation of the practice of medicine and surgery. On petition for a hearing in this court an order was made by us vacating such judgment and directing that the proceeding be heard and determined by this court. The matter has now been submitted to us for decision, as it was to the District Court of Appeal, upon affidavits and answer, and the stipulation of counsel for the defendants, made upon oral argument, that as to the facts of the case the opinion of the District Court of Appeal may be accepted as correct.

"The right of the plaintiff to the certificate sought by him was dependent upon his compliance with the provisions of the act already referred to. That act required that in order to procure such certificate he must produce before the board of medical examiners, in addition to satisfactory testimonials of good moral character, a 'diploma issued by some legally chartered medical school, the requirements of which medical school shall have been at the time of granting such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year, or satisfactory evidence of having possessed such a diploma, or a license from some legally constituted institution which grants medical and surgical licenses only upon actual examination, or satisfactory evidence of having possessed such a license.' * * *

"The affidavits filed by plaintiff in instituting this proceeding contained allegations showing a sufficient compliance with these provisions to entitle him to a certificate. These allegations were denied by the answer in two material matters, viz., as to the sufficiency of the credentials presented by him with his application for a certificate, and as to the satisfactory character of his examination as to qualifications.

"Upon the question as to the satisfactory character of the examination, we shall assume that the issue must be determined in favor of plaintiff under the stipulation of defendant's counsel as to the effect to be given to the opinion of the District Court of Appeal relating to the facts of the case. * * *

"In the matter of credentials, the only documents alleged by the affidavits to have been produced to the board of medical examiners were, first, a

diploma issued to plaintiff from the medical department of the University of the South at Sewanee, Tenn., which was alleged to be a legally chartered medical school, the requirements of which at the time of granting the diploma were in no material particular less than those prescribed by the Association of American Medical Colleges for that year; and, second, certificates or licenses to practice medicine and surgery granted by the boards of examiners of the District of Columbia and the state of Indiana. * * *

"As to the latter, * * * So far as the record before us shows, these certificates were, therefore, insufficient under the requirements of the act, and could not authorize the granting of a license by defendants. * * *

"Concerning the diploma, * * * It is suggested that the provision of the act authorizing the acceptance of only such a diploma as is issued by some legally chartered medical school, the requirements of which medical school shall have been at the time of granting such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year, is void, because the effect thereof is to delegate to this association a power which, it is claimed, can be exercised only by the legislature itself. This court has recently decided to the contrary in a case where a similar contention was made and fully considered. (*Ex parte Gerino*, 143 Cal., 412, 417, 419.) It is urged that what was said upon this point in that case was dictum. We do not so consider it, but even if it were we see no reason for receding from or modifying the views there expressed, and we adhere thereto.

"It is further urged that the act should be construed as rendering an applicant entitled to a certificate upon passing a satisfactory examination, even though he fails to produce the required diploma or license, in other words that the act entitled him to a certificate either upon the production of a proper diploma or license, or upon passing a satisfactory examination. Clearly the act will bear no such construction. The language of the provision as to production of diploma or license is such as to necessarily make it applicable to every case, and no exception thereto is declared in any other part of the act. This provision is immediately followed by the provision as to examination, which declares: 'In addition to the requirements above set forth, each applicant for a certificate must be personally examined as to his qualifications to practice medicine and surgery,' etc. The next section (6) provides: 'When any applicant has shown himself to be possessed of the qualifications herein required, and has successfully passed said examination, a certificate must be issued,' etc. In the face of such clear and unambiguous language there can be no doubt as to the proper construction of the act in this regard. A diploma or license coming up to the requirements of the act is essential in every case to the right to a certificate, however well qualified the applicant may be in other respects.

"We are forced to the conclusion that, notwithstanding the long experience of plaintiff as a practicing physician and surgeon, extending over a period of more than ten years, and notwithstanding that he may have successfully passed the examination as to his qualifications to practice, it must be here held that he has failed to comply with the provisions of the act in the matter of producing a proper diploma or license, and therefore that he must fail in this proceeding.

"The application for a writ of *mandamus* is denied."

The foregoing decision is signed by Angellotti and concurred in by Shaw, Sloss, Henshaw, Lorigan and McFarland. Now let us cease from this over-ripe anxiety about the constitutionality of the medical practice act. Every essential part of it has been pronounced constitutional. No matter how many Arwines may appear and secure attorneys to fight it, the law will stand. Foolish trial judges there may be who will extend temporary hope to the disgruntled, but do not worry about it; in the long run they will not succeed in upsetting the protection to the public which all the reputable members of our profession in this state have for so long been fighting to maintain.

SOME SETTLED AND UNSETTLED POINTS IN DIETETICS.*

By BOARDMAN REED, M. D., of Los Angeles.

The injurious habits of eating and drinking, with the resulting perverted appetites which are exceedingly prevalent, are responsible for a majority of digestive troubles. They cause also, indirectly at least, a very large share of the chronic affections generally in whatsoever structure or tissue of the body.

When we except the exanthems, malaria, syphilis, tuberculosis and the diseases caused by traumatism, by the metallic poisons and by a few other toxic agents or infections from without, practically all the remaining maladies which afflict us and cut short our lives are now directly or indirectly traceable to autointoxication; and this is only a synonym for poisoning by the products of a faulty metabolism which in turn results in most cases from dietetic errors with or without other unhygienic practices and a bad inheritance. Moreover, there are good reasons for believing that persons who have healthy digestive organs and a normal metabolism much more rarely than others become victims of the beforementioned exogenous affections.

How faulty our standard diet tables are and how harmful the results that may ensue from the consequent excessive ingestion of the proteids, especially, appears from many comparatively recent investigations in physiological chemistry, in metabolism, in autointoxication, etc. Among the more important of these are those made by Bouchard (1), Albu (2), von Noorden (3) and, most striking of all, the experiments and conclusions of our own Chittenden, which are recorded in his book on "Physiological

Economy in Nutrition" (4) and his previous paper on "Autointoxication" (5). Chittenden's book embodies the results of a large number of remarkable experiments carried out under his direction on numerous students, clerks, athletes and men detailed for the purpose from the Hospital Corps of the United States Army, with the strictest possible observance of all the conditions to ensure accuracy.

The experiments demonstrate that healthy men while undergoing heavy and even violent muscular exercise can maintain a nitrogenous equilibrium and preserve their weight, strength, mental activity and feeling of wellbeing undiminished on a ration which contains only 40 to 60 grams of proteid food instead of the 118 grams laid down as necessary by Tait, or the 120 grams required by Atwater. Cereals, vegetables, sugar and fats were substituted for much of the meats and eggs usually eaten, and it is noteworthy that the total fuel value of the daily ration to which the men were limited for quite prolonged periods amounted on the average to less than 2500, instead of the more than 3000, calories or heat-units prescribed by the leading dietetic authorities in the past for a workingman of the average size—that is, one weighing from 70 to 75 kilos.

Very many of the leisure class, persons who rarely use their muscles, eat habitually a larger proportion of the proteids and more of all the food elements than are prescribed in the standard minimum food ration which recent exact tests have proved to be excessive even for workingmen. We may accept it, therefore, as a settled fact in dietetics that a very large proportion of people eat too much, especially of the proteids, such as fish, meat and eggs, in addition to the considerable amounts of the same food element obtained from the cereals and bakery products, and especially from the beans, peas, milk, cheese, nuts, etc., usually taken.

This large surplus of food eaten, instead of being a trifling error, is really the cause of an enormous amount of ill-health and undoubtedly shortens the life of many who thus indulge, because extra work is imposed upon the liver and kidneys in excreting it. Let any one who doubts this consult the writings of Louis Cornaro, who when given up to die at forty adopted a very abstemious diet, recovered and lived to the age of one hundred and four years, with the enjoyment of all his faculties unimpaired to the last. His life story and also contributions on the same subject by Lord Bacon, Addison and Sir William Temple will be found in a recent volume (6).

It would lead too far to point out here in detail the irrational gastronomic habits and customs which with the help of perverted appetites are responsible for so much mischief; but it is proper to explain why, in the face of the truths just enunciated, an extra generous feeding of tuberculosis patients while kept almost constantly in the open air, or of neurasthenics while stimulated for a few weeks in the rest cure by massage and electricity has proved so generally useful.

In tuberculosis an extraordinary waste is going on which demands the fullest feeding compatible with the digestive capacity; and in neurasthenia there has often been a long period of underfeeding or of one-

* Read before the Southern California Medical Society in Los Angeles, November, 1906.

sided feeding which needs to be compensated. But even in these affections crowding of the food beyond the usual amounts by no means agrees with all cases, and there has been of late a notable reaction against it as a routine measure in lung cases. In none of the neurasthenics can it be safely continued beyond a very limited period.

When the stomach is dilated the large quantities of milk given in the usual rest treatment are likely to aggravate, and the same result often follows forced feeding when there are certain complicating conditions, especially a marked deficiency of the gastric juice.

I recall one striking case of this kind which occurred during my practice in Philadelphia. A thin, nervous little woman had lost flesh steadily during an unduly prolonged rest treatment in which food was forced upon her *ad nauseam*, but gained upwards of twenty pounds on a limited diet while the proper attention was being devoted to the needs of her digestive organs.

I know personally that Weir Mitchell in the management of his rest cases has the condition of the viscera carefully studied, including in many of them the gastric secretion; and also that at both the Pottenger Sanatorium in Monrovia and the Barlow Sanatorium in Los Angeles much care is taken to see that the digestive functions of the consumptives are not overtaxed. When their stomachs can not be made to tolerate the reasonably full feeding which is all that is found to be necessary or advantageous, it is modified accordingly. All the nourishment is given them which they can comfortably digest, but forced feeding is not practiced.

Authors are in virtual accord as to the appropriate diet for most of the commoner diseases. In chronic nephritis, however, von Noorden (7) takes strong ground against the somewhat prevalent practice of prescribing a milk diet as a routine treatment and favors only a moderate ingestion of any kind of liquid in the same class of cases.

As to pneumonia, the pendulum seems to have swung in the last thirty years from a low diet and antiphlogistic treatment generally to a rather full and stimulating one with either an expectant or a tonic drug treatment. Whether this change in method is accountable for the markedly increased mortality in pneumonia of late is a question which may be left to those who see more of the disease than I now do.

There are several gastro-intestinal affections as to the proper diet of which authorities differ. This is notably true of those characterized by an excessive secretion of hydrochloric acid, hyperchlorhydria, gastroxynsis, Reichmann's disease and acid gastric catarrh.

A number of gastrologists advise that the subjects of these diseases should be placed on a predominantly proteid diet—one containing much meat especially—because it is both more easily digested and palliates more the pain by combining with a much larger amount of the free acid in the stomach. This nitrogenous regimen is preferred in spite of the fact that it is confessedly more stimulating to the gastric

glands, thus tending to perpetuate the trouble, and, if long continued, must burden the excretory organs to get rid of the abnormal nitrogen surplus. A further result is likely to be a derangement of the metabolism and some form of autotoxemia. Other authors advise that the excess of acid should be immediately neutralized by large enough doses of alkalis and then that the least stimulating articles of diet be prescribed, but that the meats, and especially the meat extracts—beef extracts, beef tea, broths, etc., which are the most stimulating of all foods—should be allowed very sparingly, if at all, in order to avoid further irritation of the already irritated or congested glands.

This point has been fully discussed by me elsewhere (8); and I have emphasized there the fact that while ordinarily a diet in which carbohydrates and fats predominate will, with slow eating and thorough chewing, as is so forcibly inculcated by Fletcher (9), prove most curative in hyperchlorhydria, there are occasional cases in which a different manner of feeding is preferable. In these the stomach is badly infected with yeast and other germs, so that, in addition to the HCL. excess, there are also in it large amounts of the organic acids as a result of fermentation. In such cases the starch foods must be kept at a minimum in the diet, and when butyric acid is present in large amount, milk, cream and sometimes even butter need to be much restricted or withheld entirely; and then such proteids as eggs, fish and chopped beef may have to be given in excess of the normal proportion temporarily until the fermentation can be controlled.

Some points in dietetics which seem to loom up in the eyes of the laity and lay writers, need to be touched upon here. It is considered by many that the worst possible food for any form of dyspepsia is anything containing starch, and especially potatoes. Yet it is a fact that starch and sugar, together making up the carbohydrate class, must in any proper diet compose at least three-fifths of the total nourishment, even according to the old standards which allow altogether too much proteids. Sugar being the most fermentable of all food articles, is badly borne when there is much flatulence in either the stomach or bowels, and often has to be either greatly restricted or forbidden entirely. Consequently starch must in the long run form a chief part of the diet if the nutrition is to be maintained.

As to potatoes, these are rather less fermentable than bread, especially hot or fresh yeast bread, containing less starch and none of yeast germs which tend to produce flatulence. Indeed, I have usually found baked or boiled and mashed white potatoes to agree better with the average flatulent dyspeptic than any other vegetable.

Then the old saying that "one man's meat is another man's poison," which has much of truth in it, is disputed by some writers on hygiene, and this leads to the question as to whether fruit should agree with everybody. There certainly are many persons who have either inherited or acquired such a sensitive condition of their gastro-intestinal mucous

membranes that the more acid fruits—and sometimes any of them—taken raw especially, always irritate, causing griping pain, much gas and frequently diarrhoea.

It is probable, nevertheless, that the fruits, though having small nutritive value along with laxative properties which, in so far, place them rather in the category of medicines than pure foods, are entirely wholesome for the majority of people when taken in moderation.

There remain many interesting questions, among them the propriety of topping off big dinners with rich desserts which tempt always to overeating, and especially with such strong and heavy articles as nuts and cheese. Then there are the stimulating beverages and condiments whose relation to a normal dietary has never yet been entirely settled. It would seem to be high time that our profession should take hold of these vital questions and no longer leave fashions in dining or the arrangement of menus to ignorant or at least wholly unscientific cooks and caterers.

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THE INTENSITY OF THE PULMONIC SOUND IN MITRAL INCOMPETENCE.*

By WM. WATT KERR, M. D.,

It may save frequent explanation if I premise the following remarks by stating that they apply only to cases of mitral incompetence uncomplicated by any other valvular lesion.

The statement is generally made that in cases of mitral incompetence the pulmonic sound is accentuated so long as compensation exists, and in nearly every text-book this change in the second cardiac sound is mentioned as occurring with such regularity as to constitute one of the physical signs diagnostic of mitral regurgitation. My own experience

has been such as to make me doubt whether this changed second sound occurs with such frequency as to warrant us in attributing such a constant value to it, for while I would not go the length of denying the possibility of the pulmonic sound being accentuated in some cases of mitral incompetence, nevertheless it has been heard in such a very small proportion of the cases coming under my observation during the last twenty-five years that its presence always suggests the probability of a co-existing mitral obstruction, a condition that does not necessarily mean actual narrowing of the orifice from adhesion of the segments or growth of vegetations, but may simply indicate an imperfect relaxation of the muscular fibres in the basal ring, so that the auriculo-ventricular opening offers an abnormal degree of resistance to the entering blood stream during diastole.

It is true that in many cases the pulmonic is louder than the aortic sound, but it does not follow that on this account the former is accentuated, because this relative difference between the two factors of the second sound is normal in most people until middle life; and I must say that in mitral incompetence it never has been my fortune to meet an accentuation of the same quality as is so frequently obtained in mitral stenosis. Accentuation is a matter of tone rather than of sound.

Accentuation of the pulmonic sound indicates increased blood pressure in the pulmonary artery at the time of closure of the semilunar valves, but there are both physiological and pathological reasons for questioning whether this condition of affairs invariably exists as a result of mitral insufficiency. We admit that in mitral incompetence there is an increase of pressure in the pulmonary system, but contend that this takes place during ventricular systole, when the semilunar valves are open, and generally is relieved before they close.

In mitral incompetence the strain due to increased pressure in the pulmonary circulation is at its maximum during regurgitation, i. e., during ventricular systole, at a period in the cardiac cycle when the pulmonic valves are open and the direction of the blood current is forwards so that at this time it is impossible for any pressure to be exerted upon the semilunar segments. Furthermore, during ventricular systole the burden of the pulmonary circulation, which in a case of mitral incompetence consists of the volume of blood sent forward by the right ventricle plus the blood already in the pulmonary circulation plus the amount and momentum of blood driven back into the pulmonary circulation by the powerful contraction of the left ventricle, falls upon the wall of the right ventricle and the closed tricuspid valve and dilatation of the right ventricle results, varying in degree according to the amount of mitral regurgitation and the nutritional state of the ventricular walls. When the mitral lesion is slight and the cardiac muscle healthy, all symptoms of strain upon the right heart may be absent or only manifest themselves by the frequent recurrence of the "safety valve" action of the tricuspid during special effort on the part of

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

the patient; but when the regurgitation is considerable, or the myocardium weak, dilatation of the right ventricle with relative incompetence of the tricuspid valve takes place readily.

There is not, therefore, any doubt that in this lesion the maximum pressure is systolic in rhythm and is sustained by the right heart; the only question is whether a blood pressure sufficient to produce an accentuation of the second sound invariably persists in the pulmonary artery and circulation after the ventricular systole has ceased. If the amount of regurgitation be very great, this is possible, but in our experience it is exceptional, and the following is offered as a plausible explanation of its absence from a very considerable number of cases in which tricuspid failure had not taken place.

Physiological observation of intra-cardiac pressure teaches that so soon as the auriculo-ventricular valves close the intra-cardiac pressure in the ventricles begins to rise and continues to do so until it reaches and then exceeds the pressure in the artery, and so soon as this differential point is attained the semilunar valves open and the blood flows forward from the ventricle. The semilunar valves remain open after the systole is completed until the ventricles begin to relax, and an instant is quickly reached at which the intraventricular pressure is less than that in the artery when the semilunar valves immediately close. The muscular fibres in the basal ring surrounding the auriculo-ventricular opening participate in this relaxation of the walls, and the suction power of the ventricle, due to the consequent development of an intra-ventricular negative pressure, is initiated. In short ventricular diastole with its motor influence on the blood stream has commenced before the semilunar valves close, and consequently the blood in the lungs and pulmonary artery has already received the diastolic impulse towards the left ventricle before these valves are in a position to generate the second cardiac sound. It seems highly probable that this physiological mechanism must make the production of high pulmonic pressure very difficult in a case of uncomplicated mitral incompetence. In mitral stenosis it is otherwise. Here the narrowing of the left auriculo-ventricular opening, whether that be due to adhesions of the valve segments or simply to diminished relaxation of the basal ring, causes a delay in the emptying of the pulmonary circulation, consequently the high pressure in the pulmonary artery persists during the early part of the ventricular diastole and the semilunar valves are closed with abnormal force. The accentuated pulmonic sound which is heard in emphysema, asthma, chronic bronchitis and pneumonia, before there is any failure of the right ventricle, is similar in its etiology to that found in mitral stenosis, as the destruction of lung capillaries delays the flow of blood from the pulmonary artery into the left ventricle. In all of these conditions, whether it be a constricted mitral orifice or a partially obliterated capillary area in the lungs, there is a persistent obstacle to the flow of blood from the pulmonary artery into the left ventricle during its diastole, and the fact that in all these lesions the pulmonic sound is accentuated suggests the important part that early diastolic relax-

ation of the left ventricle normally plays in reducing blood pressure in the pulmonary artery before the semilunar valves close.

Clinical evidence is not wanting to warrant the idea that high pulmonary pressure in uncomplicated mitral incompetence is exceptional. Hæmoptysis in cardiac valvular disease is generally accepted as a symptom of high pulmonary pressure, and we expect to find it most frequently in those lesions that tend to produce the highest pressure in the pulmonary artery. Some years ago, at Guy's Hospital, London, statistics were collected from all cases of hæmoptysis occurring in valvular disease, with the object of ascertaining the valve lesion in which pulmonary hemorrhage was most common. It was found that 59% of the cases in which the hemorrhage occurred were examples of mitral stenosis, a smaller number presented single or double lesions of the aortic valves, while cases of uncomplicated mitral incompetence furnished fewer examples of hæmoptysis than any other valve lesion, and this in spite of the fact that mitral incompetence is twice as common as any other valvular lesion and therefore the opportunities for hemorrhage twice as great.

These clinical facts cannot fail to raise doubts as to the existence of any great increase in pulmonary blood pressure in cases of simple mitral incompetence, and the physiological conditions already discussed seem to furnish additional warrant for scepticism. There cannot be any doubt that the pulmonary pressure is raised both in mitral stenosis and incompetence, and we are therefore compelled to ask why is hæmoptysis so much more frequent in stenosis. I have heard it explained by the statement that in stenosis the right ventricle is working against a constricted mitral orifice, but this is impossible as normally the mitral valve is completely closed during the ventricular systole, and consequently the increased pressure must be due to retention of blood in the lungs on account of the delay experienced by the pulmonary circulation in emptying itself through the narrowed opening during ventricular diastole. There is this distinction therefore between the increased pulmonary tension of mitral incompetence and that of stenosis—that the pressure is raised in both lesions during ventricular systole, but that in the former it may be relieved immediately on the completion of the systole during the period of relaxation that takes place before the semilunar valves close, while in stenosis the increased pressure persists well into the diastole and hence in this latter condition the signs of high blood pressure in the pulmonary circulation are more marked. It is not disputed that in mitral incompetence the pulmonic sound frequently is *louder* than the aortic, but until middle life this is the normal state of affairs; furthermore, in cases of mitral incompetence the tendency is towards diminished intensity of the aortic sound on account of the smaller volume of blood propelled into the aorta and a consequent feeble recoil. We must therefore be careful to discriminate between an *actual accentuation* of the second sound and an *apparent increase in its intensity*, due to diminution of the aortic factor.

RESULTS OF ROENTGENIZATION IN SUPERFICIAL MALIGNANCIES.*

By ALBERT SOILAND, M. D., Los Angeles.

From time to time an article dealing with the X-Ray creeps into the newspapers and an occasional Ray injury is there so distorted and magnified that the lay-readers get very erroneous ideas regarding this matter, even to the point of abject fear of coming into contact with the X-Ray apparatus. Several of these newspaper writers go so far as to designate as quacks any one who dares to employ the X-Ray therapeutically.

Nor is this attitude found alone in the lay-mind, for not infrequently physicians take the same stand. For example, at the last meeting of this society, a well known and highly qualified member made the statement that he was glad of an opportunity to raise his voice against the travesty of treating cancer by means of the Roentgen Rays.

Despite such authority, I have for the past seven years made a rather exhaustive study and use of the Roentgen Rays and believe that I am in a position to speak with some assurance upon this matter.

Referring to the subject, cancer, there is no argument among scientific men as to its treatment. Cancer is, and probably always will be, essentially a surgical disease, and, therefore, thorough removal by surgical means is warranted wherever the location of the lesion is suitable. It is, however, within the realm of possibilities that the future may develop a corrective which will prevent cancerous cell perversion. At present we are confronted with a large group of epithelial lesions, many of which are true cancers and that develop upon exposed parts of the body, particularly the face. These do not always respond so favorably to operative interference, but are happily amenable to Roentgenization. I have no hesitation in affirming that in the X-Rays we have the most potent weapon that science has so far placed in our hands to combat superficial malignant disease.

The patients that I beg to present to you by means of stereopticon views, have nearly all been referred by members of this society. A number of the lesions exhibited have been curetted, pasted and wholly extirpated from one to twenty times with as many recurrences, before the X-Rays were employed. Microscopical examinations have been made, in a majority of the cases, to demonstrate the malignancy. The original photos, being made with a small kodak, do not present the lesions as clearly as I would like to have them appear. Some of the patients with facial disease, naturally, refused to be photographed. Others failed to return for a clean view after the lesion was healed. Enough will be demonstrated, I trust, to prove conclusively that from a therapeutical standpoint the Roentgen Rays are neither a travesty nor quackery.



Fig. 1—Lupus of Nose before and after treatment.

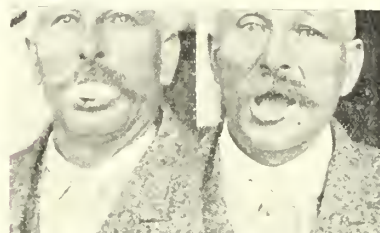


Fig. 2—Epithelioma Lower Lip before and after treatment.



Fig. 3—Epithelioma Lower Lip before and after treatment.



Fig. 4—Epithelioma Upper Eyelid before and after treatment.



Fig. 5—Epithelioma Lower Eyelid before and after treatment.

* Read before the Southern California Medical Society.



Fig. 6—Mixed Tumor of Hand before and after treatment.



Fig. 7—Pigmented Tumor of Cheek before and after X-Ray treatment.

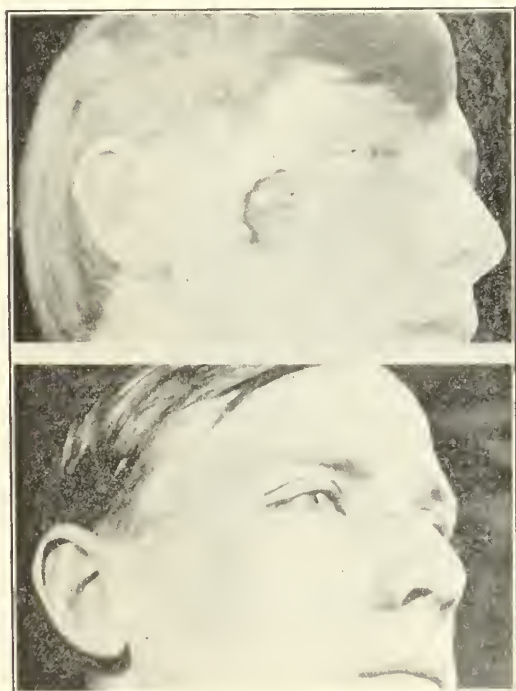


Fig. 8—Epithelioma of Cheek, removed four times by knife, healed in three weeks by X-Rays.



Fig. 9—Tubercular Ulcer of Hand before and after X-Ray application.

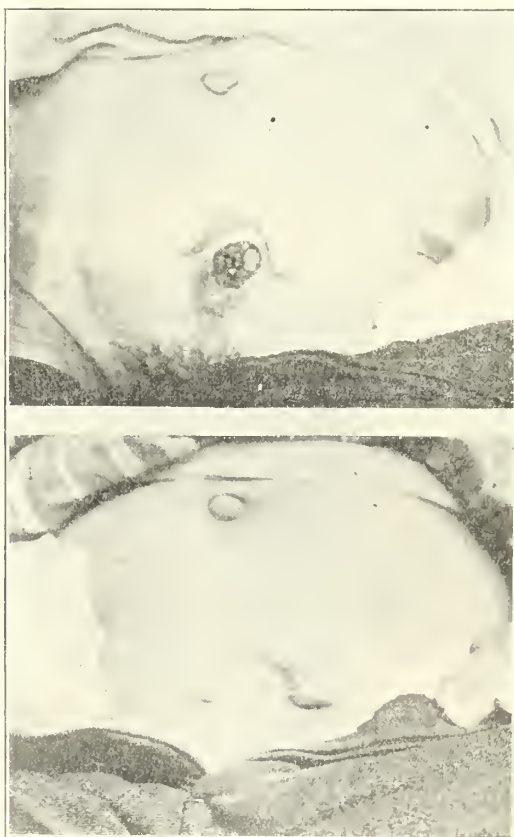


Fig. 10—Tubercular Ulcer with Sinus leading into bladder. Closed by X-Ray applications after cauterizing had failed.

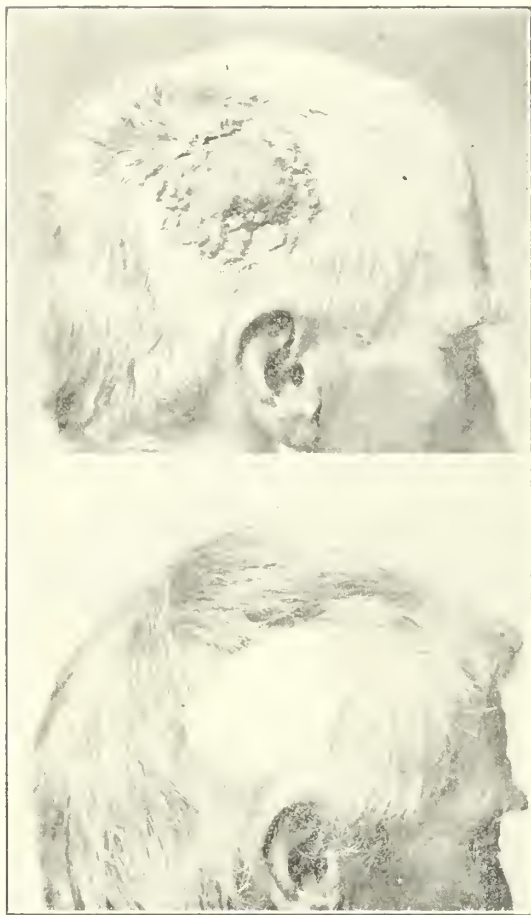


Fig. 11—Tuberculosis of Scalp before and after treatment.

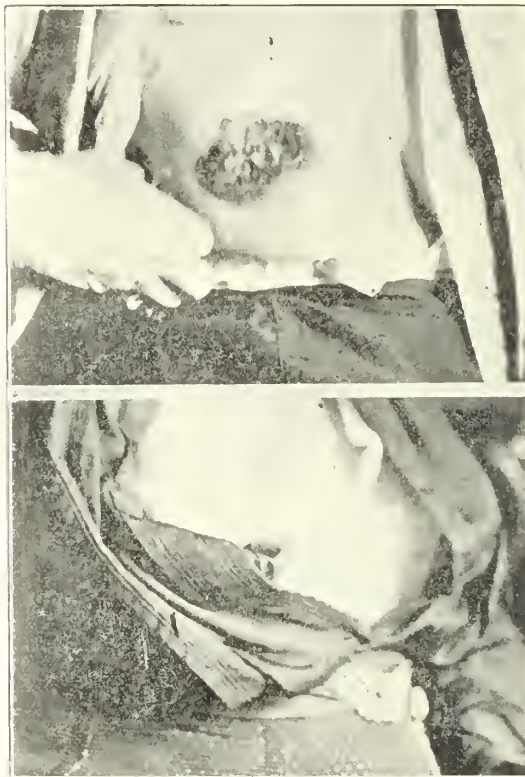


Fig. 12—Cancer of Breast before and after Roentgenization.

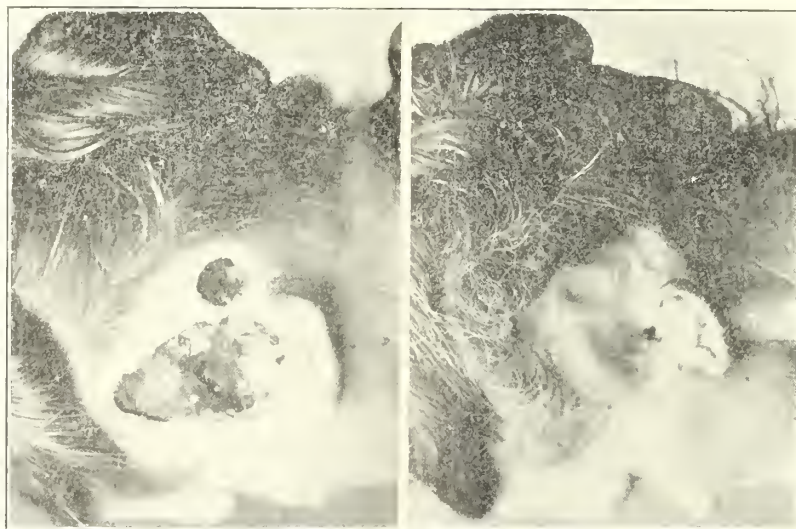


Fig. 13—Rodent Ulcer before and after treatment. This case was curetted and pasted 20 times in ten years.

THE X-RAYS AS A THERAPEUTIC FACTOR IN DERMATOLOGY.

By D. FRIEDLANDER, M. D., San Francisco.

The credit of the first attempt at utilization of the Roentgen Rays as a method of treatment in dermatology must be accorded to Freund of Vienna, who, in 1900, attempted to treat a case of pigmented nevus pileferous which resisted the ordinary methods of treatment. He exposed the area to the rays for two hours daily, and at the end of twelve sittings had the satisfaction of seeing an epilation of the hair. Unfortunately, as a result of excessive exposure, the patient developed an X-ray burn of the third degree, with consequent prolonged healing.

Since then medical literature has been replete with favorable reports on the use of the rays in dermatology, and, at the present date, there can be no doubt as to their therapeutic efficacy.

However, since the first application of the rays to dermatology, they have been applied indiscriminately to every conceivable skin affection and, as is natural, with varying results; but, as a consequence of this, we are now in a position to treat our cases more intelligently. We can tell which cases are suitable for radiation, which are particularly susceptible to it, and also those on which the action is little or none; and we have practically eliminated that bugbear of radiology, the X-ray burn.

The chief drawback to radiotherapy has been the difficulty in determining the dosage to produce a given result, but since we now have the penetrometer, by which we can measure the penetrability of the rays, and the various chloradriometers of Sabourand, Holzknicht, Kienbock and Schiff, which change color in proportion to the amount of the rays absorbed by the skin, we can now adjust our dosage with scientific accuracy. In other words, we may still get a reaction of the first degree, in fact often direct our treatment to that end, but a burn of the third degree is now very rarely seen and practically never in the hands of an experienced operator. But in treatment we find certain parts of the body more susceptible to the rays than others, also different complexions and ages. Generally speaking, the exposed portions of the body, that is the hands and face, react more quickly to the rays, while a blonde will have a more severe erythema following a given dose than a brunette, while the general susceptibility to the rays decreases progressively from infancy to old age. Furthermore, we find, if the diseased and healthy area are treated simultaneously, the diseased area reacts more quickly, with the exception of ulcerated areas, which stand a larger dosage than the adjoining skin without reaction.

As to the choice of tubes for dermatological purposes, the consensus of opinion is in favor of soft tubes, i. e., tubes which show the bones black in the fluoroscopic picture, or generally speaking, a tube that will not back up a two-inch spark gap. Stelwagan starts with a two-inch spark gap and then removes the automatic regulator and allows the tube to rise gradually, claiming thereby to secure a deep as well as a superficial action, while other

authorities, as Schiff and Freund, prefer high tubes with frequent treatments. But regarding the length of treatment, distance of the tube from the patient, whether high or low, whether to give the entire dose at one treatment or in a series of treatments, are questions that each individual operator must determine according to his own experience and results. Generally speaking, however, we use soft tubes on superficial lesions and medium hard or hard tubes on the deeper-seated ones. The following law formulated by Kienbock practically covers the subject: The degree of reaction depends on the quantity of the rays striking the skin, and the duration of the period of incubation varies in inverse ratio to the strength of the dose.

To guard against susceptibility on the part of the patient, it is well to follow the plan of Schiff and Freund, who give a preliminary treatment of 10-20 minutes with a medium tube; no reaction following in two weeks, the treatment is commenced.

The patient is placed on a table or couch and, with the exception of the area to be treated, protected from the rays by sheet-lead, covered with cloth or gutta percha, and the tube so adjusted that the area to be treated is parallel to and directly below the platinum mirror of the tube. The nearer the tube the greater the effect; the softer the tube the quicker the effect and vice-versa. Owing to the deleterious action of the rays the operator must also be protected, since it has been found by bitter experience that operators get X-ray burns, chronic radio-dermatitis, also epitheliomata, and according to the investigations of Albers, Shoenburg and Freiben it has been found that the rays have an affinity for the cells of the testicle, producing degeneration of the cells of the spermatid ducts and azoospermia. F. Tilden Brown also reports eighteen cases of sterility in X-ray workers.

To protect the operator doing dermatological work it is sufficient to have a lead-covered screen with a lead glass aperture, the screen being so placed that the operator has access to the switches and rheostat without exposure, or in place of the screen the equally efficient but inconvenient lead glass tube covers may be used. The lead glass tubes on the market are insufficient protection, enough rays penetrating the protected portion to show a fluoroscopic picture.

The action of the rays on the skin is summed up by Pusey in the following manner:

1. Atrophy of the skin and its appendages.
2. Destruction of microbes in living tissue.
3. Alterations of metabolism.
4. Destruction of certain pathological formations.
5. Anodyne action on the pain of certain malignant tumors, neuralgia and puritis.

In view of the small element of danger in the use of the rays, together with the possibility of pigmentation or atrophy of the skin, it is ridiculous to treat every case of acne, eczema, psoriasis or varicose ulcer. In fact, I believe it should only be used where other therapeutic measures have failed, or in cases like sycosis or favus where the time of treatment is materially shortened by its use.

Of all diseases treated by the rays, the most brilliant and undisputable results have been obtained in the treatment of the rodent ulcer type of epithelioma—the advantages of the rays over other methods are multiple—the absence of pain, the ease of application, the cosmetic result and the ability to treat lesions on the nose or eyelids, ordinarily inaccessible to surgery. Since we know that the rays exercise a selective action on rapidly proliferating cells, we are able to destroy the new growth without injuring the embedding healthy stroma. In cases where the edge of the ulcer is surrounded by epithelial perles, the ulcer will often heal, while the elevated border persists. To obviate this I have followed the suggestion of Allen, and now destroy the border with electrolysis or the high frequency spark before applying the rays, and with uniformly good results.

Mikulicz, in a paper read before the Roentgen Congress in Berlin, sums up the treatment of malignant disease by the X-rays as follows:

In cases of cancrroid (*ulcus rodens*) the results are equally as good as excision, as regards the permanency of cure, and far superior as to cosmetic results, especially on the nose and eyelids. With carcinomata of deeper origin, as of the lip, breast, etc., he recommends operation and without waiting for a recurrence; in fact, often before the wound is entirely healed, submits the patient to the rays.

The results obtained in recurrent mammary carcinoma are remarkable; the pain stops, the discharge diminishes, the ulcer cleans and finally heals, while the nodules grow smaller and often disappear. Of course, the disease is not cured, but it is undoubtedly a great advance to be able to so alleviate the symptoms, and it undoubtedly retards the disease and prolongs life.

The parasitic diseases of the hairy parts, as favus and trichophyton, as well as sycosis, non-parasitica, furnish an admirable field for the employment of the rays, since we secure prompt epilation and the majority of the parasites come away with the hairs, leaving the follicles open for medication. The hair returns in from six weeks to three months, and we are often able to secure results in cases absolutely rebellious to ordinary measures. The rays seem to have a further action than simply a means of epilation, the diseased surface improving in appearance before loss of hair takes place.

On account of their depilatory effect the rays have been recommended by Schiff, Freund, Keimbock, Pusey and others for the treatment of hypertrichosis, but in order to get permanent results the hair follicles must be atrophied, which takes one to two years of intermittent treatment. Furthermore, as the result is often accompanied by an atrophic condition of the skin and pigmentation, so it is well to reserve it for the exceptional case.

Alopecia Areata has likewise been treated very successfully, but in so erratic a disease we can not be certain whether the results are due to the treatment or not; certainly the average case is curable by other methods.

Acne Vulgaris offers a favorable field for the em-

ployment of the rays, but I do not agree with Pfahler that every case should be so treated. The ordinary case will respond to a sulphur lotion, together with removal of the comedones, or an exfoliating paste, or perhaps the application of the high frequency spark, but the type of acne I refer to is the indurated pustular type that we find on the back and occasionally on the face.

The results, which often do not appear until a reaction of the first degree has occurred, are highly satisfactory and appear to be due to the production of an atrophy of the sebaceous glands and hair follicles.

Another fertile field for the application of the rays is Lupus Vulgaris, where the remedy seems to have a selective action on the Lupus nodules. They become dark red and congested and finally apparently drop out. In small patches on an accessible surface, the Finsen lamp is to be preferred for cosmetic effect, but where large areas are involved, or ulcerated, or where the lesions are situated on the mucous membrane, the X-rays are more practical. Kummel of Hamburg, together with numerous others, have reported a number of cases, and the results are certainly noteworthy and apparently permanent.

In eczema the treatment should be confined to those cases that are resistant to ordinary treatment. Particularly suitable are circumscribed chronic eczemas with an infiltrated base, also the tylotic forms of the sole and palms. Also resistant cases of genital and anal eczema where an immediate relief is obtained from the intense itching.

In lupus erythematosus the results are not as good as lupus vulgaris, the percentage of cured cases being hardly larger than that secured by other methods.

The results in Psoriasis are rapid and certain. The scales falling and the punctate bleeding point disappear in from eight to fourteen days. Hyde and Montgomery report thirty cases with good results, but this method does not prevent recurrences, the only advantage being the quickness and cleanliness of the treatment.

In treatment of the keloid the X-rays give better results than any agent heretofore used. It causes a gradual diminution in size and finally leaves a smooth white scar, and when the pain exists relieves it.

As an example of the anti-pruritic action of this remedy I desire to cite two cases of Prurigo Ferox, in which practical relief from the intense itching was obtained after all other means were exhausted, and also a case of multiple neurofibromata (Von Recklinghausen's disease), accompanied by intense itching, which is satisfactorily controlled by the use of the rays.

I might go on indefinitely citing cases benefited and cured by this agent, but I think there can be no doubt as to the efficacy of radiology in dermatology, i. e., when applied conservatively and properly, and I believe it is a permanent therapeutic factor, the use of which will increase as time progresses.

ACNE VULGARIS AND ITS TREATMENT.*

By R. E. BERING, M. D., Tulare.

Having had to care for a number of patients during the past several years suffering from acne vulgaris and realizing how unsatisfactory the old methods of treatment have been, I concluded a report of a case would be interesting and the discussion to follow highly profitable, at the same time possibly remove from the minds of those now skeptical the doubt of the treatment as carried out.

As is well known, a severe case of acne is a very difficult thing to manage, and will cause many an experienced physician much thought and worry to know how best to remove the disagreeable and oftentimes painful blemishes from the face of an otherwise perfect specimen of young womanhood, and if successful winning her undying gratitude and everlasting friendship.

I shall not attempt to enter into all the various causes or the many, many drugs used in an attempt at a cure, but will only mention a few of the more important ones.

The immediate cause of acne is an invasion by the staphylococcus pyogenes and an inflammatory condition of the sebaceous gland, with resulting tubercles and pustules. Acne makes its appearance about the time of puberty, females being more susceptible than males. As a rule, after the first stages of puberty have passed this condition ceases and the patient enjoys freedom from this facial disfigurement. But in some, females particularly, they get into an anemic cachectic state, showing a poor metabolism, disordered molimen, generally of a high nervous temperament, bad condition of the alimentary canal, dyspepsia, etc.

The following case will give a good example of the average patient suffering from a severe case of acne vulgaris:

Father, mother, two sisters, three brothers, all living; family have a somewhat strumous appearance; no history of syphilis or consumption in the family. Patient commenced to menstruate at 14; immediately after, she noticed a number of comedones on her face and shortly a papular and pustular eruption, many being very hard and indurated; during her menstrual periods this eruption was considerably worse. She was irregular, had a very scanty flow, bowels constipated, dyspepsia, etc. This condition continued until she came to me for treatment. Knowing she had been under the care of two good physicians for some time, I knew I could not expect to get results with the older plans of treatment, so I followed the suggestions as mentioned by Pusey and Caldwell in their excellent work on the Rontgen rays in therapeutics and diagnosis. The patient was protected with a lead shield, only the side of her face being exposed and subjected to the X-ray for a period of fifteen minutes, with the tube about six inches from her face; after treating one side the opposite side was treated in the same manner for a like period of time. This treatment was continued daily until a pronounced redness was produced, care being taken not to create too great a reaction. From this time on her treatments have been about two a week with three minutes exposure. From the second week this

patient began to improve—the pustules commenced to dry up, and swelling and induration reduced in size and extent and her face assumed a normal expression, the first time in several years. Treatment was commenced last September, and from the disappearance of the eruption she has been free of any new lesions. Her face is considerably scarred, but that was due to the large amount of induration, pus and destruction of tissues, which, in my opinion, could have been prevented or greatly modified had she been exposed to the X-ray sooner.

As the action of the X-ray is to cause an atrophy of the glands of the skin, as well as the hair follicles, it also has the power of destroying bacteria and inhibiting the formation of pus; under its use the pustules and comedones cease and the skin becomes smooth.

Of course, it is important to ascertain the chief cause of the trouble and endeavor to remove it if possible. The disordered digestion needs looking after, constipation relieved, irregular and scanty menstruation corrected. The drugs used are to be selected for the individual case and in conjunction with the use of the X-ray would advise their use, but, however, I am thoroughly convinced that with the careful and proper use (early use) of the X-ray, with steaming and massage, any case of acne can be cured and leave no scar to constantly remind the patient of her past trouble.

THE CONTROL OF DIPHTHERIA IN A PUBLIC SCHOOL.

By ARCHIBALD R. WARD and MARGARET HENDERSON, State Hygienic Laboratory, University of California, Berkeley.

Diphtheria, of all the infectious diseases, gives the best opportunity for the successful application of bacteriological methods for its diagnosis and control. This is due to the circumstance that the lesions are most commonly situated in the throat, a location readily accessible for bacteriological examination.

The clinician who ignores the value of bacteriological examinations, or who is unable to utilize the same, recognizes the usual form of diphtheria by the character and location of the diphtheritic membrane, together with certain constitutional symptoms. To such physicians the membrane is an important factor in the diagnosis of the disease, and the termination of clinical symptoms is the only means of determining the end of danger of transmitting infection. Without the assistance of bacteriological methods the diagnosis of diphtheria, even when a membrane is present, is most difficult. Hill (1) has shown that the clinical diagnosis is correct in only 62% of cases when the physician relies upon clinical symptoms alone. The mild cases, in which no diphtheritic exudate is formed, utterly escape recognition unless some other member of the family develops diphtheria with typical lesions.

From the standpoint of the bacteriologist, any lesion in the throat associated with typical diphtheria bacilli is diphtheria, whether the membrane appears or not. The extent of the lesion may be restricted by reason of the resistance of the patient, and yet

* Read before the San Joaquin Valley Medical Association, Hanford, Cal., March 12, 1907.

another may contract a serious case of diphtheria from the mild case. The bacteriologist goes even farther, for he regards with grave suspicion a well-known harboring virulent diphtheria bacilli in his throat or nose. Such "germ cases" may or may not contract clinical diphtheria, but in any event they are regarded as just as dangerous sources of infection as clinical cases—more so, on account of the absence of quarantine restrictions.

Bacteriological methods likewise furnish an exact method for determining the proper time to release from quarantine. It has been demonstrated that in certain cases virulent organisms persist in the throat and nose long after recovery. Such cases, when freed from quarantine restrictions, constitute a serious source of infection. Experience has shown that two successive negatives (2) from both throat and nose constitute the best guarantee that the convalescent is free from danger of transmitting infection. In Boston, such has been the practice for the past eight years.

The facts revealed by the study of the bacteriology of diphtheria have suggested efficient methods for its control in families, schools and institutions. Some exceedingly valuable object lessons in the control of diphtheria have been made by Dr. F. F. Westbrook (3) and associates, under the auspices of the Minnesota State Board of Health.

The existence of an epidemic of diphtheria in one of the schools of Berkeley afforded an opportunity to make an exhaustive trial of the control of diphtheria by strictly laboratory methods.

The local health authorities first became alarmed about diphtheria in Berkeley early in November. In October five cases were reported in the entire town, four of them from the Lincoln School district. In the first half of November ten cases were reported, nine of them from the Lincoln School district and two of them resulting in death. Besides these reported cases, there were unofficial rumors of many others. During this time the termination of quarantine was left to the discretion of the physician in charge, and it was not demanded that cultures should be taken, to decide when the patient was free from infection. Permission to re-enter school was issued on the presentation of a certificate from the physician.

Conditions were exceptionally favorable for undertaking the management of the epidemic in the school by strictly controlling the attendance through bacteriological examinations. The dual position of Dr. George F. Reinhardt, as professor of hygiene in the University, and as health officer of the town of Berkeley, unified the agencies necessary to the conduct of the work. Dr. Reinhardt planned and enforced the features of the campaign, concerning attendance at school, and otherwise made helpful suggestions. Incidentally, he bore the brunt of explaining the necessity for the measures employed to both the town officials and the parents.

A great clamor arose among the inhabitants of the region, and those of other parts of Berkeley who heard of the epidemic, insisting on the closing of the school until the diphtheria should be over.

But it was deemed much wiser to keep the school open, excluding all children who showed diphtheria bacilli in their throats. If the school closed, all children would go out of the control and observation of the health officers. If it were open, they would remain segregated, new cases would be easily traced, and old cases more easily kept quarantined until free from infection. So it was decided to examine every child in the school, exclude all those showing diphtheria bacilli, and readmit the infected ones only after two negative cultures had been obtained from them at an interval of at least a week.

In making this examination of the school we organized the work in the following way: On the day before that set for the examination, the principal of the school was supplied with 3x5-inch serially numbered cards, printed with blanks for the name, the address, the age, the grade of the children, and the size of the family, together with spaces for our findings, both in the examination of the throat and of the cultures. These cards were distributed to the children and filled out as fully as possibly by them with the facts they could supply. Then, on the next morning, the children were marched into the examining room, each one carrying his numbered card. Our force was divided into groups of two, one to swab the throat and make the culture, the other to put on the tube the same number that appeared on the card, and to record in the proper space on the card any observations on the condition of the throat.

The swab used consisted of a wooden applicator with a bit of cotton wrapped about the end. The necessary supply of these was sterilized within suitable containers, usually pasteboard boxes. When ready for use, one end of the box only was cut open, so that swabs might be removed with the minimum possibility of exposing the remainder to contamination. In the subsequent visits to the homes, and in the second examination, it was found convenient to use large test tubes as swab containers. Wooden tongue blades were used for depressing the tongue during the operation of swabbing. Each blade and each swab as it was used was thrown onto a sheet of paper, at the operator's elbow, and the whole heap was burned at the end of the examination. Operators and secretaries sat facing each other at either side of a long table. The children, under the guidance of one of the teachers, came in at one door of the room, marched the length of the table, each one stopping at one operator or another to be examined and to deliver his card, and went out by the other door and immediately home. With this organization the whole examination took very little time. In the first instance, the four hundred and seventy-five children were examined in something less than two hours and a half, with six groups of secretary and examiner.

In this first examination, cultures were made only from the throat. In every case an effort was made to touch all the tonsillar surface and to get into the crypts as well as possible. The swab was rubbed over the surface of a tube of Loeffler's blood serum, made after the recommendation of the Minnesota

Board of Health, with the addition of 1.25% of glycerin. The inoculated serum tubes and the corresponding cards were kept in test tube baskets, each holding about twenty-five. This provision minimized the labor of finding the card for the purpose of recording thereon the results of the microscopic examination. When the recording was completed these cards were rearranged alphabetically and so formed a permanent and easily accessible record of the individuals. At the end of the examination the cultures were taken to the laboratory and inoculated over night (about eighteen hours) at 37.5° c. The next morning smears were made on slides, numbered to correspond with the tube, and stained for two minutes with Loeffler's alkaline methylene blue.

The school was closed for the three days necessary to examine these cultures, and when it was reopened those children showing diphtheria bacilli were sent home, together with their sisters and brothers.

We did not attempt to disinfect the school at any time during the epidemic. The principal undertook to see that the desks of the children found positive were washed in a 4% formalin solution, and that their books and pencils were sent home with them. Beyond that nothing was done in the way of disinfection at any time.

In making this first examination we attempted to be as conservative as possible in the judgment of types of the diphtheria bacilli. We reported positive only those cases showing Westbrook's types A, C and D. These were chosen on the authority of a committee (4) as representing the consensus of opinion of bacteriologists as to the types. Every positive was passed upon by at least two of the laboratory force, so as to rule out all errors of individual judgment. About four hundred and seventy-five children were examined, and twenty-seven, or about 5%, were found positive. The trouble was explained as fully as possible to these children, and they, and all the school children in their families, a total of about seventy-five, were sent home. No attempt was made to quarantine them. They were merely excluded from the school.

An investigation of the history of these twenty-seven children showed various interesting facts. R. E., visited on November 23rd, was a typical case. His mother told the inspector that he had been under the care of a physician about two weeks before, for a slight sore throat, and that he had been told at that time that he was "threatened with diphtheria." He had not been out of school.

M. N. came from a family in which a case of diphtheria had been reported to the health officer on November 9th, ten days before.

E. C. had had diphtheria, first reported to the health office on October 31st.

A. F. had had diphtheria, first reported to the health office on November 9th, ten days before.

H. S. was visited on November 23rd. His left tonsil showed a large white patch, and his mother reported that he had been confined to the house by

a mild sore throat ever since the school examination was made. His brother had had "croup" and a "high fever" two weeks before, but was "all well now."

G. H. gave two negative cultures when visited at her home, but was being treated constantly with antiseptics. A third visit found her sick in bed with a "sore throat" and yielded a positive culture.

F. H. had been confined to the bed for a day with a "sore throat" and was receiving antiseptic applications. A culture gave a negative result. A week later his mother said this sore throat was due to an ulcerated tooth.

O. C. when visited was sick in bed with a "little fever," due to "a bilious attack."

H. K. had a "sort of cold" for a long time.

R. H. came from a family in which diphtheria had been first reported in November.

In the other seventeen of the twenty-seven cases the history showed nothing. Of these twenty-seven, then, four cases came from families in which diphtheria had arisen in a recognized and reported form not more than twenty-six days before, and six were suffering at the time, or had suffered not more than two weeks before, with a mild complaint, variously diagnosed as cold, or croup, or fever, or sore throat.

Three days after the examination two clinical cases were reported from the school. These two children, sister and brother, had both given negative cultures from their throats at the school. Their later history developed the fact that the infection with them was primarily nasal, and after their apparent recovery, culture after culture showed their noses infected and their throats clear. It took very few such cases to convince us of the necessity of taking nose cultures.

It became apparent immediately that the source of the trouble was twofold, unrecognized, mild cases of diphtheria, and recognized cases, released from quarantine before the bacilli were gone.

After the day of the examination no child was admitted to the school, after an absence of as much as three days, until an examination of its throat had shown it to be free from diphtheria bacilli. An inspector called at the school at one o'clock every day. All children asking admission, who had been away for as much as three days, were then examined and sent home with instructions to return on the next day at noon. The cultures were incubated over night and examined next morning. During the rest of the school term this resulted in the exclusion from the school of nine more families. Their histories were like those of the originally excluded families. One child was admitted after an absence of but a few days on a negative culture. The next day the inspector, in walking along the street, was told by neighbors that the family was having diphtheria. On inquiry the mother told him that the disturbance was measles. A few days later a second child came to be admitted to the school and gave a positive culture, later followed by positive from three other children in the family.

The youngest daughter of one family asked ad-

mission after the Thanksgiving recess. She came under the three-day ruling, because she had been out of school for three days. Her culture was negative, but it developed, on questioning her, that her sister had been taken sick just before Thanksgiving and was at the time at home sick with diphtheria, not reported to the health office, but the child protested that "the doctor said her sister was all well now," a statement volubly affirmed by her mother, although cultures from the patient gave positive results. The rest had been out of school on various pretexts and no significant history was traced.

The children that were excluded from the school were not, as has been said, quarantined. It was decided that it would be effectual enough merely to exclude them from the close association with other children incidental to the school-room. They were visited at unexpected times, at intervals of about one week, by inspectors from the laboratory, who took cultures from the throats of all members of the family. When two successive cultures, taken at intervals of at least one week, had shown no bacilli, permission to re-enter school was issued to them. The greatest difficulties in the whole procedure were met at this point. The inability of the people to grasp the idea of an infection causing no symptoms in the host, but likely to be transmitted and cause trouble in a second individual, was beyond their understanding and mightily aroused their indignation. This was true not only of the parents, but of many of the physicians with whom we had to deal, and repeatedly we were faced by certificates from them to the effect that this or that child was now perfectly well and ready to attend school, when our own examinations were showing that diphtheria bacilli were still present.

The time through which bacilli persisted in the throats varied greatly, as is shown in table I.

TABLE I.

Number of cases in which bacilli were not present on second examination	10
Number of cases in which bacilli were present on second examination, but not thereafter.....	7
Number of cases in which bacilli were present for 10-20 days	1
Number of cases in which bacilli were present for 20-30 days	1
Number of cases in which bacilli were present for 30-50 days	2
Number of cases in which bacilli were present for 50-100 days	1
Number of cases in which bacilli were present for 100-150 days	3
Number of cases in which duration was not determined	2
Total	27

Of the twenty-seven children excluded from the school, on the first examination, ten did not show bacilli on the first visit to their homes, which oc-

curred approximately one week later, and were readmitted to school within a very short time. Four of the cases were still giving positive cultures after fifty days. Bacilli were still present in one case after an interval of 135 days, and absent thereafter for two intervals of one week. Another case was still giving positive cultures after 136 days, when she passed out of our observation. Both of these were children who did not at any time show symptoms of diphtheria, and had not had cases in their families.

Of the seven children sent from school on examination after three days' absence, six failed to show bacilli on a second culture taken a week later, and one of the clinical cases was still giving positive cultures after twenty-four days, when the case passed from our observation.

At the first examination it was astonishing to all the force to see the condition of the children's throats. We agreed beforehand to report throats as normal or inflamed, with tonsils enlarged, or with tonsils very much enlarged, and it was soon evident that the normal throat was very much the exception, and all degrees of enlargement and inflammation were the rule.

As will be seen from table II., the exclusion, without quarantine, of all the children showing the granular types of diphtheria bacilli, did not check the spread of diphtheria in the school district.

TABLE II.

Period.	Cases of Diphtheria in families connected with school.	Cases of Diphtheria in families not connected with school.
October 1-31	5	1
November 1-19	9	1
November 19—First school examination.		
November 19-30	4	0
December 1-31	12	2

There were twelve cases reported in December from families having children in the schools, as against five in October and thirteen in November. So, during the Christmas recess, it was decided that the children of the school would have to be examined again. Before the second examination a letter was sent to all the physicians in Berkeley, clearly setting forth the situation in Berkeley, explaining fully what we had done in and after the first examination, stating what we had accomplished, and outlining our plans for the second examination. This was done in the hope of enlisting the sympathy of the profession in the enterprise and getting help in the control of the mild cases, which were so hard for us to reach.

It was decided, since the first examination had not stopped the trouble, that this second must be made much more stringent. So various changes were made in the technic. Cultures were taken from the throat as before; but, in addition, cultures were also made from the nose, on the same tube of

blood serum. Smears made from these cultures, after incubation, were stained with toluidin blue, as well as with alkaline methylene blue. It was found most convenient to make two smears, one on either end of the slide, and at the same time stain one with alkaline methylene and the other with toluidin blue, each one making thus a convenient check upon the other. Any culture was reported positive that showed even a few granular organisms. It was decided to err rather on the side of excluding too many than too few children, so a few cultures showing such organisms as Westbrook's type E or F, most of them all showing a suspicious history, which in the first examination we should have called negative, were here reported positive. Any organism, then, that showed granules was considered as a virulent diphtheria organism, for here, as in the first case, it was impossible, because of the mass of work on hand, to stop to test virulence.

Those children who gave positive cultures, together with other children in the family, were sent away from school with a letter to the parents explaining the situation and advising medical attention. Furthermore, each household was quarantined. The quarantine was a modified form to suit the needs of the case, confining the children, but not the adults of the family, to the premises.

In this second examination, seventy-seven of the 550 children, or 14 per cent, were found to be harboring diphtheria bacilli. This meant the exclusion from school of a total of 125 children. Of these seventy-seven, ten were children who had been found infected on the first examination and who had been readmitted on two negative cultures taken a week apart. Three were in the family of a case reported to the health office in October, 1906, but had given negative cultures on the first examination. One case developed typical diphtheria within the next few days. One whose culture was negative, but whose brother gave a positive culture, was reported by the physician to the health office as having diphtheria before we got all the cultures examined. The other sixty-two seemed to have no direct connection with any cases. We had to rely on rather inexperienced students, this time, for the subsequent visiting of these cases, so there were doubtless mild cases among them of which we did not get reports.

Table III. shows the progress of diphtheria in the school after this second examination, with its additions, such as nose cultures, toluidin blue staining and subsequent quarantine of positives.

After the first examination the number of cases in the school did not at all decrease. There were four in the latter half of November and twelve in December, six in the first half of January. After the second examination there were two cases immediately among children already quarantined for showing positive cultures, and then not another one until the end of February, when two occurred within a few days of each other, and without spreading at all in the school. Since February there have been no cases at all in the school.

The subsequent surveillance of the school was

conducted as before, every new child and every child who had been absent for as many as three days being examined before he was allowed to enter. Visits were made weekly to the quarantined houses, and quarantined children were given certificates permitting them to re-enter school when two successive cultures had been negative. The length of time through which bacilli persisted varied in this case as in the other, as is shown in table IV.:

TABLE III.

Period.	Cases in families connected with school.	Cases in families not connected with school.
October 1-31	5	1
November 1-19	9	1
November 19—First school examination.		
November 19-30	4	0
December 1-31	12	2
January 1-10	6	0
January 10—Second school examination.		
January 10-31	0	5
February 1-11	0	5
February 11-28	2	0
March 1-31	0	0

TABLE IV.

	Cases.
Negative (one week after school examination) . . .	20
Positive (4-9 days after school examination) . . .	22
Positive (10-30 days after school examination) . .	15
Positive (30-100 days after school examination) .	5
Positive (over 100 days after school examination) .	2
Total	64

Of the sixty-four new cases that this examination brought to light, twenty failed to give a positive culture on the first house visit a week later; twenty-two gave positive cultures on this first visit but did not on the next, which was about ten days after the examination. Fifteen were still positive for from ten to thirty days; five for from thirty to one hundred days, and two for over one hundred days. One of these is still giving positive cultures at the time of writing, 128 days after the original examination, and the other one has passed out of our observation, after giving a positive culture on the 124th day.

Two interesting points were brought out in connection with this persistence of diphtheria organisms. The first was the recurrence of positive after negatives. Ten cases have already been alluded to which were re-admitted to school late in December, after two negatives, and were excluded again on the second examination, on January 10th. Of course, in this case there is excellent chance that there was a reinfection. But in seven of the quarantined cases, negatives were preceded and succeeded by positives, and so we feel convinced that it would be unwise to re-admit children to school on any less than two negatives, and even that is taking risk.

The other point is the spreading of bacilli within the families. In the large majority of cases, only the individual first found harboring the bacilli at any time gave positive cultures. But in fourteen families the infection spread to other members of the family, in one instance, to seven out of thirteen children.

Quarantine had to be maintained for most widely varying times. Table V. will give the length of quarantine in twenty-six clinical cases that came under our observation during this period. This is the time computed from the reporting of the case to the health office to the release on two successive negatives.

TABLE V.

Days of duration of quarantine—	Cases.
10- 20 days	1
20- 30 "	7
30- 40 "	8
40- 50 "	1
50-100 "	8
100-150 "	0
Over 150 "	1
Total	26

The average time of quarantine was 45 days from the commencement of trouble; the extremes from 15 to 153 days.

In the purely germ cases its duration was as follows:

TABLE VI.

Days of duration of quarantine—	Cases.
10- 20 days	37
20- 30 "	43
30- 40 "	18
40- 50 "	14
50-100 "	12
100-150 "	5
Over 150 "	0

Total 129

The average time for these 129 cases was 33 days; the longest time for any family was 139 days. This represents only those cases who allowed examinations to be made at reasonable intervals. Quarantine was greatly, and unnecessarily lengthened in many cases by the unwillingness of the parents to submit to the necessary supervision by the health authorities.

CONCLUSIONS.

(1) The epidemic that existed in the school was due to three factors—first, the existence of mild cases of diphtheria that, because of the lack of bacteriological examination, went unrecognized as diphtheria; second, the insufficient length of quarantine in clinical cases; and, third, germ cases following exposure and never showing clinical symptoms.

(2) Our attempts to isolate all infected children had no effect on the course of the epidemic, so long as we made throat cultures alone. When we took both nose and throat cultures, and quaran-

lined all the children showing positive cultures, the epidemic stopped.

(3) It is extremely important, in times of danger from diphtheria, that every sore throat, no matter how far it may seem to be from diphtheria, be regarded as suspicious, until a bacteriological examination has proved it to be otherwise.

(4) It is such a frequent occurrence to have a positive follow a negative culture, that at least two negatives should be demanded for release from quarantine. No case should be released on clinical signs alone.

(5) It is possible to stop epidemic diphtheria in a public school by regulation of attendance by bacteriological findings.

It would have been impossible to carry on the work involved in these examinations had it not been for the help of Dr. A. F. Gillihan and Dr. C. M. Haring and Mr. W. T. Jane, in examining cultures. We are also indebted to numerous medical students for assistance in making cultures, a labor carried on at times under conditions such as to try the patience severely.

From the State Hygienic Laboratory University of California, Berkeley.

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2. B. R. Rickards. The value of two consecutive negative cultures as a method of releasing diphtheria patients. American Journal of Public Hygiene and Journal of the Massachusetts Association of Boards of Health, Vol. XVI., November 1906, No. 4, p. 25.

3. Westbrook, Wilson, McDaniel and Adair. A preliminary communication on bacillus diphtheriae and its variants in a school in which diphtheria was endemic. British Medical Journal, April 16, 1898.

Westbrook. Report of the Bacteriological Laboratory. Report of the Minnesota State Board of Health for 1897-1900, p. 497.

4. Report on Diphtheria Bacilli in Well Persons, by a committee of the Massachusetts Association of Boards of Health. Journal of the Massachusetts Association of Boards of Health, July, 1902.

SUGGESTIONS ON METHODS OF ATTACKING TYPHOID FEVER IN SAN FRANCISCO.

By H. A. RYFKOGEL, M. D., San Francisco.

It will not be necessary to enter now into a discussion of the etiology of typhoid fever since it may be considered as established and this paper will deal very briefly with the points by which the disease is carried, the methods to be adopted in studying the present endemic in San Francisco, and finally the means that should be used to prevent the further spread of, and stamp out, the disease.

It was long taken for granted that typhoid fever was purely a water borne disease and although it was realized that the disease was transmissible by contact, the importance of this method of spread was not realized, and the role that flies played was practically unknown.

The majority of endemics and epidemics in cities occur as a result of water infection, and the number of cases depends on the dilution of the infecting material. The dilution is determined by the area of the water shed and rainfall, that is by the amount of water, by the distance of the first infected point from the distributing pipe, by

the amount of excreta reaching the water and by the stage of the disease in the patient. Thus, if all the dejecta of a typhoid case should reach the reservoirs that supply a city, or should the same material enter a stream a short distance above the intake of a town water supply, the resulting epidemic would be sudden in onset and the cases numerous. The further away the point of infection is from the intake, the less in number will be the resulting cases, partly by reason of greater dilution and partly because of the natural purification that occurs as a result of gravitation, etc.

In towns which draw their water from rivers which have passed through settled country, typhoid is usually endemic, because the river receives the excreta from the places above which have been infected in some manner from the river and also from small villages and isolated farmhouses, etc., in which infection is kept alive by means of flies.

A sudden epidemic may occur when the town water is not infected, because the water supply of one or more of the dairies supplying the town with milk and butter, has become contaminated. The milk-can is infected while being washed, and as milk is an excellent medium for the growth of the bacillus typhosus, its infectivity is multiplied many-fold before it reaches the consumer. It will be recalled that the recent epidemic in Palo Alto was produced in this way.

It is exceedingly difficult to isolate the bacillus typhosus from water under natural conditions, but fortunately we have an index of the presence of fecal matter in the form of the bacillus soli communis. It must not be supposed that the presence of this organism proves that the water is infected with the bacillus typhosus or even necessarily contaminated with sewage. Its presence, and more particularly its abundance, are, however, very suggestive and always demand an investigation of its source; that is to say, the water from all streams and pipes entering the infected reservoir should be examined and the infected one traced up for the point of contamination.

Where the source of the colin bacilli cannot be found, and if they should be numerous, say more than one to the centimeter, the water from the infected reservoir should be condemned or subjected to effective filtration.

Th camp epidemics of the Spanish-American and South African wars first attracted attention to the role that flies played in the transmission of typhoid fever. Although the water supplies were not infected, nevertheless between two and three months after the formation of the camps severe epidemics of typhoid appeared, and Reed, Vaughan and Shakespeare, who were appointed to study the outbreak, came to the conclusion that flies were largely responsible.

Several investigators have shown that after a fly had fed on typhoid discharge, the bacillus can be cultivated from the insect's excrement. Minute particles of feces also adhere to its hairy legs and if a fly is made to walk first on typhoid feces and then on

a gelatin plate, the bacillus typhosus can be cultivated from the resulting colonies.

When a fly infects milk in this manner, the bacillus rapidly multiplies and infection is more certain than when food is infected. Epidemics in which flies play the leading role are much more gradual in onset than the severe water borne epidemics and a period of two, three or four months usually elapses between the establishment of a camp whose occupants use open latrines and the appearance of any great number of typhoid cases. The reason for this is obvious.

For this reason the late epidemic in this city was predicted by many physicians, and in a report made by me to the Board of Health about the middle of May (1906), I stated that the non-appearance of typhoid at that date merely signified that the water had not become contaminated, and insisted that unless immediate steps were taken to clean and properly screen the many filthy latrines then existing, numerous cases of typhoid would appear about three months after the earthquake.

The cases of typhoid that occur in country and mountainous districts where the water is pure, are probably fly borne. The number of cases in fly epidemics depends on the number of flies and their opportunities for feeding on infected material.

The common house-fly lays its eggs in horse manure and in warm weather completes its cycle of growth in a few days. In cool weather it takes very much longer to develop. Flies are much more active in warm than in cool weather, and for these two reasons the insects are much more numerous during warm weather. The presence of suitable food such as garbage, etc., has a definite influence on their number and activity. Their opportunity for feeding on typhoid infected material depends on their access to the feces and urine of a patient suffering from the disease.

Feces and urine on the surface of the earth or on soiled clothing, etc., give them an ideal opportunity. The deeper and darker a latrine is dug, the less liable is it to harbor flies, and in the absence of flushing or screening facilities, very deeply dug and darkened latrines are good preventive measures. Superficially dug, light latrines harbor many flies and further tend to infect the soil in which bacillus typhosus may live long and even multiply.

In this connection we may mention the capacity for harm of ambulatory cases which bear the same important relation to the spread of typhoid as in malaria, plague, yellow fever, etc. The ambulatory typhoid, particularly if suffering from diarrhoea, will infect latrines and urinals, his own clothing and eating utensils, and the people with whom he comes in contact. The bed patient, on the contrary, is a known source of infection and can be specifically dealt with. Thus it is the ambulatory cases first bring typhoid to a city whose water supply is not inspected. It is these cases coming from the country at first, but now also developing locally, that San Francisco must fear and guard against.

Contact infection plays a large part in the trans-

mission, as is proved by the numerous cases occurring among nurses and doctors in hospitals. In the Spanish-American war this method of transmission seemed to bear a very important part. Certain small epidemics have also been due to infected oysters, but they probably play no part in the San Francisco cases.

In San Francisco, after April 18th, the conditions were such that we could hardly hope for the good fortune to escape an invasion of typhoid fever. The city at a moment's notice lost the use of flushing closets and had to be without them for a month. During another period extending to the present, a large proportion of the population have had to continue as in the first period, using latrines. Owing presumably to the lack of funds many of these latrines were for a long time improperly constructed and not a few still remain so and the spasmodic dusting with chloride of lime or sprinkling with carbolic acid could hardly do more than transiently substitute one disagreeable odor for another somewhat less so.

SUGGESTIONS.

Constant watch must be kept on our water supply because although not infected it might readily become so. Every latrine in the city must be hunted up, and if it is not properly built it must be made so. The burned district should be thoroughly gone over and ample toilet facilities provided in every block where men are working. When possible flush closets should be built; when this is impracticable a screened latrine with double spring doors should be used. Under the seat should be placed a galvanized iron container holding a solution of cheap disinfectant, such as lime. This container should be emptied daily.

If it is impossible to arrange a system for emptying the pails, a portable screened double-doored latrine should be placed over sewer manholes, or over earth holes, at least 6 feet deep and not more than two feet wide in its narrowest diameter in order that its depth and darkness will bar out the flies. When the sewer manhole is used it should be daily cleaned and flushed with a stream from a fire-hose. When an earth hole is used a box of dry earth should be at hand and directions posted to cover every stool therewith. The fecal mass should be thoroughly covered by a laborer once a day. When the latrine fills to within four feet of the surface it should be filled in and a new one dug. The covering of the fecal mass every day or so with chloride of lime or crude carbolic acid is of but little value, since flies will attack the first stool deposited after treatment with either of the substances. It certainly cannot be expected that they disinfect the mass on which they are placed. If this were desired it would be necessary to thoroughly mix the disinfectant and feces in proper proportion. To prevent flies lighting on feces they must be immersed in a disinfecting solution and when containers are used the only safe system is to use both screens and solution.

The inspection of latrines could be done by the

police, and it would take but a few responsible medical inspectors to instruct and watch the police.

During the prevalence of typhoid in a community, the people should be urged to eat no uncooked food, that is liable to be infected by flies or dust. Physicians should be on the lookout for ambulatory cases, and these should be immediately put to bed and properly handled.

Those handling typhoid patients should be taught that the feces and urine and sometimes sputum contain the bacillus and are consequently a source of danger. Early recognition of cases is of the utmost importance and suspected cases should be considered typhoid until proven otherwise. Typhoid patients should not be kept in the same room or ward with patients suffering from other diseases, and the apartment in which they are located should be carefully protected from flies. Every discharge of feces or urine should be thoroughly disinfected. The sputum should be destroyed. Eating and drinking utensils, bedding, towels, gowns, etc., should be all soaked in a disinfecting solution a sufficient length of time before removal from the ward. The attendant should wear gowns which are removed before leaving the ward and the nurse when handling the patient should wear gloves.

THE MANAGEMENT OF PLACENTA PREVIA, WITH A REPORT OF SEVEN CASES.*

By A. B. SPALDING, M. D., San Francisco.

Placenta previa is not such a rare obstetrical complication but any physician in general practice of medicine may at any hour be suddenly and most unexpectedly called upon to manage this dramatic obstetrical crisis. To know that one is dealing with a condition so liable to end fatally to both mother and child; to know that by modern methods of management more mothers at least can be saved than by the older methods; to know that spectacular but ineffectual efforts are constantly being made to lower the high foetal mortality, gives much material for thought and conjecture.

Holmes¹ sums up the maternal and foetal mortality in placenta previa in 2756 cases, reported in the literature since 1877, and compares the results with the statistics of Read & Muller for the mortality in 1975 cases occurring in the pre-antiseptic days, as follows:

	Maternal Mortality.	Foetal Mortality.
Holmes Cases.		
Complete	13.4 %	80.5 %
Incomplete	4.3 %	50.5 %
Total	7.36 %	54.1 %
Read & Muller Cases.		
Complete	30.9 %	67.5 %
Incomplete	15.0 %	51.5 %
Total	23.6 %	63.1 %
So many of these patients give a clear history of		

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

having suffered from endometritis or subinvolution of the genital organs that valuable prophylactic measures should be carried out by every practitioner with all puerperal patients under his care. The proper management of the normal puerperium is in itself such an extensive subject that time will not permit of its complete consideration. Of the more important points in the prophylaxis of placenta previa, mention is made of careful repair of the genital tract after labor, of a prolonged period of rest during the puerperium, which should be combined with intelligent massage² and proper posture, of local and internal medication when indicated and of proper operative effort when needed to prevent the development or to cure sub-involution, retroversion and endometritis before the patient passes to a second and possibly complicated pregnancy.

Hemorrhage is certainly the most obvious, the most various, the most dangerous diagnostic and prognostic sign to be noted. When it appears early in pregnancy, as it sometimes does, it usually appears at what seems to be a menstrual period, it usually indicates a serious condition, such as a complete placenta previa. It is usually mistaken for threatened abortion, and fortunately it not infrequently ends in a spontaneous expulsion of the uterine contents. With recurring hemorrhage early in pregnancy the patient is always a source of worry, although fatal hemorrhages are unusual. The fetal prognosis is so poor that in the interests of the mother, pregnancy should be terminated as soon as a positive diagnosis is made. An important point which should always be born in mind when caring for patients with either placenta previa or threatened abortion, who bleed freely and for a considerable time, is to make frequent blood examinations. I have seen one patient in consultation with a similar history whose haemoglobin had dropped to 30%. When the hemorrhage begins in the middle months attention must be paid to the child, although never to the extent of sacrificing the mother's life. Trained attendants should always be near the patient and an impressive warning should be given to call the attendant at the beginning of hemorrhage. Women are so used to losing blood per vaginam that failure to call aid promptly is greatly to be feared. When possible the patient should be carried along until at least the thirty-second week. Should interference be demanded, operative judgment should be influenced by the condition of the child, the variety of the previa, the condition of the cervix, the size of the passages and the surroundings of the patient. With a complete placenta previa, a live, vigorous child in a uterus with a long closed cervix, with a small vagina or a small pelvis, with the mother in good condition and in a well regulated hospital, Caesarian section should be considered.³ Statistics are against this operation,⁴ but in looking over the reported cases and eliminating those where the mother was in poor condition or infected before operation and where the baby was dead, it is found that the fetal mortality is markedly lowered by this operation,⁵ with about the same maternal mortality that

is found in similar cases treated by other methods. That is about 20% maternal mortality. The usual method of procedure in these cases is to partially dilate the cervix either with a rubber bag or with gauze packing, performing version as soon as feasible and extracting slowly. The fetal mortality is very high; the maternal mortality depends on the variety of the previa and the degree of asepsis of the operation. With a central variety or with any slips in aseptic technic the maternal mortality will be about 20%.

Near term the management of patients with placenta previa should be prompt and operations performed which will tend to conserve the life of the child as well as that of the mother. The usual errors in the management of these patients are that the child is allowed to die in utero before operation is attempted or that extraction is attempted before there is sufficient dilatation of the cervix, with the result that the child dies, or even worse, the mother dies from rupture of the uterus. Accurate diagnosis of the variety of the previa and of the location of the cord is needed. This is at times a very dangerous procedure. I once saw a case in hospital practice where such a profuse hemorrhage followed an examination in the clinic room that the patient's life was despaired of before she could be transferred to an adjoining operating room and delivered.

To control the hemorrhage packing the cervix with gauze is the usual procedure when a live child is desired, although just as good results can be more easily attained by inserting a Voorhees bag. To control the hemorrhage, it is not necessary to force the bag through the placenta, but to insert it just inside the internal os. The Braxton-Hicks method is by far the safest method as far as the mother is concerned, but it adds to the fetal mortality. With the hemorrhage under control the cervix must be dilated either with the body of the child or with some other form of cervical dilator. I have found the rubber bags most efficient. After dilatation of the cervix the child can be extracted, usually quite easily with either forceps or by version. A point here of diagnostic and prognostic importance is to locate the cord. If it is inserted low, that is attached to the part of the placenta overlying the cervix, extraction should be more rapid than if the insertion is higher up.

With lateral placenta previa, many patients can deliver themselves safely with more or less hemorrhage and when interference is needed rupture of the membranes or the application of forceps will usually suffice. It is hardly necessary to add that nearly every patient needs energetic treatment for shock and hemorrhage and that exceeding care must be taken to avoid sepsis.

The following list of cases illustrate many of the points mentioned above:

Case 1. Mrs. S., age 28, two para. Referred by Dr. Lewitt. Labor expected September 15th, 1903. I saw the patient first about three a. m. on August 21st. She had just had a profuse hemorrhage which had started during sleep, had saturated the bed and half filled the vessel under the

bed. She was suffering with acute anæmia and complained of air hunger, thirst, etc. No nurse had been called. She stated that during the pregnancy the hemorrhages began at the second month and had returned each month, compelling her to remain in bed each time for several days. Previous labor normal. No pelvic or menstrual trouble. After removing a large number of clots from the vagina, examination revealed a soft cervix dilated one finger, a central placenta previa with vertex overlying in L. O. A. position. Child was alive. Hemorrhage was easily controlled with gauze packing in cervix. Shock and hemorrhage were combated with stimulants and salt solution per rectum and patient removed to the Childrens' Hospital. At four-thirty p. m. gauze was removed. Cervix fully dilated, covered by placenta. Hemorrhage very profuse. Cervix was torn through and internal podalic version performed. Cord prolapsed, but by extracting immediately a deeply asphyxiated male infant weighing five pounds and thirteen ounces was delivered. Hemorrhage was alarming and placenta adherent. After removing placenta manually and packing uterus and vagina tightly patient improved rapidly. On the fifth day her hæmaglobin was 55% and red cells 2,900,000. No rise in temperature and complete recovery for mother and child. Placenta normal in size and shape.

Case 2. Mrs. T. K. Age 29. Five para. Consultation with Dr. McKay. I saw patient first about four-thirty p. m., June 21st, 1904. She had had two miscarriages, but otherwise gave a negative pelvic, menstrual and obstetrical history. She was about seven months pregnant and had had no discharge of blood until the present day. About noon-time she suffered with slight back ache and cramps, which was soon followed by a profuse discharge of blood. Dr. McKay gave the patient a dram of ergot and packed the vagina with cotton saturated with a solution of alum. On examination I could find no evidences of foetal life. Position L. O. A. Uterus firmly contracted, cervix dilated three fingers, completely covered by placenta. Hemorrhage had ceased. Under chloroform cervix was rapidly dilated, placenta separated, punctured and a bi-polar version performed. A seven months' stillborn infant slowly extracted. Placenta followed the child and hemorrhage stopped spontaneously. Recovery of mother uneventful. Placenta imperfectly developed; demonstrated as specimen No. 1.

Case 3. Mrs. G. P. Age 17. Primipera. Attended by the San Francisco Maternity. History negative. No symptoms during pregnancy. Position L. O. A. Labor December 4th, 1904. Throughout first stage there was a moderate but persistent flow of blood. On examination at the end of the first stage I could feel the edge of the placenta lying to the right of the internal os. Membranes were ruptured and head crowded into brim by supra pubic pressure. Hemorrhage ceased and a live child, full term, delivered spontaneously forty minutes later. Placenta was adherent, but finally delivered by Crede method, maternal sur-

face first. Hemorrhage estimated about thirty ounces. Placenta was normal except for blood clot about size of three fingers adhering to lower part. Recovery of mother and child uneventful.

Case 4. Physician's wife. Age 35. Two para. Menstruation always very free, lasting one week. One spontaneous miscarriage at third month. Previous labor spontaneous and normal except the child died of hemorrhage of the brain thirty-six hours after birth. Pelvic history since this confinement has been negative. The last period was in December, 1905. There was a profuse flow in January, lasting one week, which came a week later than the expected time. In February there was a scanty flow three days after the regular time. No more blood until July 14th. In April the patient fell down hill for about twenty feet without causing any signs of her condition. In July, associated with marked constipation, there was a slight flow for which patient remained in bed two weeks, fearing a miscarriage. On August 9th the flow returned, at which time I was called to see the patient.

Examination. Fundus $33\frac{1}{2}$ cm. above the symphysis. Foetal heart strong. L. O. P. Head floating. Pelvis Justo-Major. Perineum firm. Cervix lacerated but closed.

As both husband and wife were very desirous for a child, no diagnostic dilatation of the cervix was attempted, although both the husband and myself strongly suspected a placenta previa. Patient was put to bed and treated with sedatives. On August 15 flow returned, with slight pains. August 17 a blood clot was passed. August 19 patient went into regular labor. At nine-thirty p. m. the cervix was dilated two fingers and the placenta could be felt partially overlying the cervix. Hemorrhage became profuse and continuous, which stopped after a bipolar version had been done. After an hour of fairly good pains the cervix became sufficiently dilated for an easy and rapid extraction. The baby was stillborn, weighed four pounds and ten ounces and was about six weeks premature. The placenta was normal except for the laceration caused by the delivery. (Specimen No. 2.) No post partum hemorrhage and recovery uneventful without fever.

Case 5. Mrs. L. Age about 35. Multipera. I was called to attend the patient at the City and County Hospital in September, 1906. She had entered the hospital the night before, after having had a most severe hemorrhage, and was almost pulseless. She was treated for the shock and hemorrhage, but no attempts at delivery were made. Twelve hours later I found the patient in poor condition with the cervix almost completely dilated and the placenta partially overlying the internal os. A dead child presented by the vertex. Severe hemorrhage followed the examination, but stopped after rupture of the membranes and an internal version. A full term macerated foetus was slowly extracted. Placenta normal. (Specimen No. 3.) No post partum hemorrhage. Recovery uneventful. No history of the case was obtained.

Case 6. Mrs. D. Age 37. Two para. Consultation with Dr. Ryer. During the previous

pregnancy eleven years ago the patient was prevented from miscarrying only by the exhibition of extremely large doses of opium and prolonged rest in bed. Since that confinement she has suffered with subinvolution and relaxation of the genital organs. Menstruation is irregular and profuse. There have been no miscarriages. No trouble with the present pregnancy except feeling of weight in the pelvis and bearing down pains until October 28th (about 36 weeks). Since that date the flow recurred almost daily with a sharp hemorrhage at intervals every few days. On December 12th, when I was called to see the patient, she had just lost over a quart of blood. The child was in L. O. A. position and alive. There was a partial previa present. Patient's pulse was 130 and she was much weakened from the loss of blood. The hemorrhage had stopped of its own accord. She was removed to the Clara Barton Hospital and at nine p. m. a number 2 Voorhees bag was inserted in the cervix. At nine a. m. on the 13th the bag was expelled. The cervix was then dilated manually to four fingers, a Braxton-Hicks version done and the child extracted after about one and a half hours of poor pains. Child was stillborn, being very near full term. Placenta was irregular in shape and lacerated (Specimen No. 4), with cord overlying cervix. Mother made a slow recovery without fever.

Case 7. Mrs. A. C. Age 39. Primipera. Attended by the San Francisco Maternity. Menstrual history irregular. Periods every two to four weeks. Four spontaneous miscarriages. Syphilis denied. During the seventh month slight hemorrhages began, being repeated every few days. Applied at the dispensary January 14th. Fundus was then 27 cm. above the symphysis. Child in L. O. A. position. No fetal heart could be heard. Three days later patient went into labor. During the first stage there was considerable hemorrhage, which was controlled by packing the vagina. I saw the patient for the first time the next morning at ten a. m. Packing was removed and on examination cervix was found dilated two fingers and covered almost completely by the placenta. No. 2 Voorhees bag was introduced. This was expelled at two p. m. and the largest bag (No. 4) was inserted in the cervix, which completed the dilatation at four p. m. The membranes had ruptured spontaneously at the beginning of labor, which made the performance of version a very difficult procedure. This was accomplished and at six-thirty p. m. a macerated male infant was delivered. Placenta normal. (Specimen No. 5.) Mother made an afebrile recovery.

Conclusions. I believe that active measures should be instituted to terminate pregnancy or hasten labor as soon as a diagnosis of placenta previa is made. It requires the best of obstetrical judgment to decide just what operative measures are needed to meet the requirements of each individual case. In the early months therapeutic abortion should be performed. After the child is viable, Cæsarian section can be considered in rare cases, but as a general rule the best results will be

obtained by dilating the cervix with gauze or with a rubber bag and doing version and extraction when other means of stopping the hemorrhage fail or when the cervix is fully dilated. In the above series of reported cases there were two primipera and five multipera. Two were complete placenta previa, four partial and one lateral. Four babies were alive and three dead in utero when the patients were first seen. There was no maternal mortality, morbidity or severe laceration. The total fetal mortality was 71%.

1. The Journal A. M. A., May 20, 1905.
2. Gallant, American Medicine, Vol. III, No. 20, page 783.
3. Moran, Is Cæsarian Section a Rational Method of Treatment in Placenta Previa? Journal A. M. A., Nov. 12, 1904.
4. Homes, Journal A. M. A., May 20, 1905.
5. Liboff, Roussky Vrach, St. Petersburg, Feb., 1905.

DISCUSSION.

[The following discussion of Dr. Robertson's paper was not received in time for publication last month, with the paper.]

Paper by Dr. John W. Robertson, Livermore: "Mental and Nervous Effects of the Earthquake and Fire of April, 1906."

Dr. A. W. Hoisholt, Stockton: I am sorry that I got here in time to hear only a part of this interesting paper. I agree with Dr. Robertson as to the effect of the earthquake as a cause of insanity. Some of the cases which I saw were cases of alcoholism, that had been discharged from the institution and where the temptation to yield to the stimulant led to partaking the liquor to excess. There were several interesting cases of that kind. In regard to the statistics quoted, I must say, that it is difficult to ferret out anything through statistics, so dependent upon inaccuracies as the committance of insane to institutions. The committances are generally made hurriedly, the examination is superficial, and there are many instances where there is no information given by the relatives and the history is so meagre that it would not figure at all in a case outside of insanity.

In certain counties the endeavor seems to be to land patients that give trouble in the County Hospitals, in the State Asylum. I have seen three cases come from one county inside of a few days, which could have been treated there. They were all cases where there was some senility present—they were slovenly or weak from old age and they were therefore a good deal of trouble in the County Hospital and were sent to the State Hospital. If the statistics include such cases and cases of alcoholism that by the time they have arrived have recovered from their delirium tremens, then you can see that the summing up of these cases and comparing them with other years does not give a scientifically correct total and you can not depend upon the statistics.

Dr. Robertson: I had hoped that my paper would bring out many of the facts that I left unsaid. All of you were there and all experienced this nervous condition to a greater extent than I did; many peculiar mental effects developed and for that reason I omitted them and picked up the sequelae of the earthquake. I will call on Dr. Thomas of Oakland to speak of some things in this connection of which he was speaking to me today, especially with regard to the animals.

Dr. Thomas, Oakland: I think there is one thing that the doctor has mentioned, which we all ought to remember, and that is the foundation principle which is so foreign to the layman, that insanity is due to a physical condition of the brain. The public is fed by fiction. Insanity is due to a physical disease. I was talking to Dr. Robertson of the physical phenomena—even that of my own family. First there was the stupefaction, which lasted for several

hours and in some cases did not go for several days. Then the effect upon those who were sick around us. One man had had typhoid fever and had not been able to do his work. His hand was forced—he had to get to the city and attend to things. He began to improve and gain in weight and appetite. The exaltation remained for a long time, then gradually wore down and we began to notice great depression. In our commercial houses we found great trouble with the help—old standbys complaining of their assistants and trifling little things making them peevish and grumpy. With the mailing clerks and other business men this post-earthquake effect was felt; the reaction became evident. With regard to animals, I had a friend who had kennels and many dogs. He lived in the suburbs, and on the night of the earthquake he left San Francisco very late and got home during the early morning. He noticed a great restlessness; the horses were kicking and moving about, and the dogs were howling and growling and shivering. He went out to them and lashed them around, but could not stop this apparent nervousness and terror. Then the earthquake followed some time after, and, as I have heard of several other incidents of animals behaving in this manner, I think they knew more of the earthquake to follow than we did. I have heard of half a dozen such stories.

Dr. Kerr: I am sure that we have had more or less experience with the disturbance of the mental system amongst our patients. The effect was marked upon the nervous system of old people. Patients, say, 80 years of age—men who had retired from business and had taken no interest in it for three or four years—for the first time and for two or three months after the fire, were among the most active men in town. There was some peculiar stimulation. They gave good advice to the younger men on difficult propositions and there seemed to be a reawakening among the old men. In five such cases, these men died suddenly. There seemed to be a rejuvenation of the mental faculties for the time being. Later symptoms showed that this was due to the prolonged nerve tension which shows itself in many business men. Now they are beginning to go to pieces. The case of a nurse has come under my notice, who went through the fire in a way wonderful to see. She took her patient out of town and hurried back and assisted in getting other patients out and behaved in a way that won the admiration of everyone. She came back after six weeks and went to work with the refugees. By and by she said she felt tired. She was nursing one of my patients and I noticed a listless and dopy condition. Then she would forget things and would say that she forgot. I thought she was coming down with typhoid. This went on until she forgot where she was. She would put on her hat and go out, and forget, when she got back, where she had been. After a while she went to a sanitarium, but there they could not do much with her. Afterwards she went away with a nurse to the Islands and came back better, but still her mind was a blank, and only last Saturday I received a letter from the Relief Commission asking me for further particulars about her as she was apparently a complete mental wreck. She had been perfectly well before that, there had been no history of nervous tendencies; she had never been hysterical.

Dr. Parkinson, Sacramento: In speaking of the effects of the earthquake, I think the great feature is that condition of mental exaltation which has been mentioned. The condition was comparable to the conditions of a great battle, and those of you who were in San Francisco will note the great similarity. There was the destruction of the property, the absence of civil organization and civil authority, the presence of a large body of armed men and the firing

of guns and blowing up of buildings, the hurrying of people and devastation in general. Following that came a condition in which there were all degrees of exaltation from heroic to mildly hysterical. Men and women were willing to work for hours and hours without rest, and in Sacramento it was difficult to get them to sleep. They were wild to do all they could. The difficulty was for the heads of the relief committees to get the willing workers out of the way. The effort to distribute charity became absurd. After a few days it became evident that the women were feeding the whole surrounding country. This continued until July, when there came a gradual letting down and then a development of the secondary effects as spoken of in this paper and by those who have discussed it.

Dr. Mays of Sausalito asked whether Dr. Robertson had heard of any cases of chronic paralysis having become well with the shock and excitement of the earthquake.

Dr. Robertson: Answering Dr. Mays, I will say that I knew of a few cases who suddenly got up and were able to go around. One was a neurasthenic who was so nervous before the earthquake that he could hardly do anything; another afterwards became a member of one of the big Executive Committees; another old man was a case of heart disease, but suddenly became able to get up and go around helping pack up and move out. The papers were full of these statements.

NEW AND NON-OFFICIAL REMEDIES.

(CONTINUED FROM JULY)

ELIXIR EUPNEIN.

A preparation said to contain in each dose of 8 Cc. (2 fluidrams): heroin 0.0026 Gm. (1/24 grain), terpin hydrate 0.13 Gm. (2 grains), creosote 0.3 Gm. (5 grains), in a menstruum containing 30 per cent. of alcohol with glycerin and aromatic essential oils.

Actions and Uses.—From its composition it appears to be well adapted to use in chronic cough from bronchitis, etc. Dosage.—4 to 12 Cc. (1 to 3 fluidrams). Prepared by Schieffelin & Co., New York.

ELIXIR SAW PALMETTO.

An elixir of palmetto berries, sandal wood and consilid.

Actions and Uses.—The constituents of this preparation are credited with diuretic properties and believed to be sedative to the genitourinary tract and to exert a curative action on the inflamed mucous membrane, especially in chronic cases. Dosage.—4 to 16 Cc. (1 to 4 fluidrams) three times a day. Prepared by Parke, Davis & Co., Detroit, Mich.

EMPYROFORM.

A condensation product of birch tar and formaldehyde.

Actions and Uses.—Empyroform is an antipuritic, sedative and desiccant. It is said to be superior to tar and free from irritant or toxic effects. It is claimed to be useful in all stages of eczema, psoriasis, lichen, urticaria, prurigo, pityriasis, etc. Dosage.—It is applied as a 5 to 10 per cent. ointment, 10 to 20 per cent. zinc paste, 10 to 20 per cent. tincture, and 37.5 per cent. suspension. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EPICARIN.

Epicarin, $C_8H_8(OH)(COOH)(CH_2C_{10}H_6OH)2:3$; $1=C_{18}H_{14}O_4$, B-naphthol-hy. Administered internally it is excreted mostly undecomposed. It has been found useful in the treatment of skin diseases, particularly scabies, tinea tonsurans, prurigo and certain forms of eczema. Dosage.—It is used externally only in the form of 5 to 20 per cent. ointment, with

petrolatum or wool fat (lanolin) as base, or in the form of oily or alcoholic solutions (10 per cent.). Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

ERYTHROL TETRANITRATE.

Erythrol tetranitrate, $C_4H_6(NO_3)_4 = C_4H_6O_{12}N_4$, the tetranitrate of erythrite or butane-tetrol, $C_4H_6(OH)_4$.

Actions and Uses.—It is a vasodilator and antispasmodic, like nitroglycerin. Its action is slower and more lasting; it begins in 15 minutes and persists for three or four hours. It is recommended in angina pectoris and cardiac diseases. It is reported as especially useful as a prophylactic in preventing anginal pain. **Dosage.**—Because of its explosiveness it is marketed in the form of tablets, each containing 0.03 Gm. ($\frac{1}{2}$ grain). One or two tablets every four to six hours. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

ETHYLENEDIAMINE.

Ethyldendiamine, $C_2H_4(NH_2)_2$, a substitution compound of ethylene and ammonia.

Actions and Uses.—It is said to be non-corrosive. It is recommended as an albumin solvent for the solution of false membranes in diphtheria and similar affections of the mucous membranes. It is recommended for use in the form of kresamine (which see). Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EUCAINE.

The "Eucaines" are two closely allied synthetic bases, which were originally differentiated as eucaine "A" and eucaine "B," but are now designated as Alpha-eucaine" and "Beta-eucaine," respectively, alpha-eucaine being a synthetic derivative of triacetoneamine, while beta-eucaine is a synthetic derivative of vinyl-diacetonekalmine. Both of these bases are supplied as hydrochlorides and are recommended as substitutes for cocaine, over which they are claimed to have certain advantages. They are described under alpha-eucaine hydrochloride and beta-eucaine hydrochloride.

EUCALOIDS.

Gelatine capsules, each containing 0.3 Cc. (5 minims) of pure oil of eucalyptus.

Dosage.—1 to 2 globules three or four times a day. Prepared by Edward G. Binz, Los Angeles, Cal.

EUCAMUL.

An emulsion of oil of eucalyptus in glycerin and honey, containing 0.13 Cc. (2 minims) of the eucalyptus oil in 4 Cc. (1 fluidram).

Dosage.—2 to 4 Cc. ($\frac{1}{2}$ to 1 fluidram), as needed. Prepared by Edward G. Binz, Los Angeles, Cal.

EUGALLOL.

A solution consisting of two parts of monacetylpyrogallol, $C_6H_3(OH)_2(CH_3COO)$, and one part of acetone.

Actions and Uses.—Eugallol acts as an energetic substitute for pyrogallol, but is liable to produce local irritation when applied to the skin. **Dosage.**—It is applied pure by pencilling once a day, covering the painted part with powdered zinc oxide, suspending the application a few days if it is followed by irritation. Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York.

EUMYDRIN.

Eumydrin $C_6H_5(HO.CH_2)CH.CO_2.C_7H_7N(CH_3)_2$, $NO_3 = C_{15}H_{27}O_6N_2$, the nitrate of methylated atropine.

Actions and Uses.—Eumydrin is a mydriatic and antihydrotic, replacing atropine sulphate both internally and externally in corresponding doses. It

is claimed that it dilates the pupil more rapidly than atropine and the dilation is of shorter duration—being intermediate in these respects between atropine and homatropine. It is said to be much less toxic than atropine, so that larger doses may be given to secure the effect. It is particularly recommended for the treatment of night sweats, whooping cough and the relief of enuresis. **Dosage.**—Internally as an antihydrotic, 0.001 to 0.0025 Gm. (1/60 to 1/24 grain). Externally as mydriatic, in solutions about one-tenth stronger than the usual atropine solutions. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

EUPHORIN.

Euphorin, $CO(HN.C_6H_5)(OC_2H_5) = C_9H_{11}O_2N$, a compound closely allied to Ethylis Carbamas, U. S. P. (urethane) and differing from this by the replacement of the group NH_2 by NHC_6H_5 .

Actions and Uses.—Euphorin is anodyne, antipyretic and antiseptic. It is recommended in rheumatism, sciatica, headache, etc. Externally it is recommended to be applied as a dusting powder in venereal and skin diseases, ulcers, burns, etc. **Dosage.**—0.5 to 1 Gm. (8 to 15 grains) dissolved in wine or suspended in water; externally in powder, in lanolin ointment and in superfatted soap. Manufactured by Fabrik von Heyden, Radebeul near Dresden.

EUPHTHALMIN.

Euphtalmin, $C_{17}H_{25}NO_3.HO$, a mandelic acid derivative of beta-eucaine.

Actions and Uses.—Euphtalmin produces prompt mydriasis free from anesthetic action, pain, corneal irritation, or rise in arterial tension. It has little or no effect on accommodation, and this disappears more rapidly than with atropine, cocaine, homatropine, etc. In its effects on the general system, euphtalmin very closely resembles atropine. **Dosages.**—2 or 3 drops of a 5 to 10 per cent. solution, according to age of the patient and the nature of the case, are instilled into the eye. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EUQUININE.

Euquinine, $C_{26}H_{35}O_5.CO_2C_{20}H_{23}N_2 = C_{46}H_{58}O_5N_2$, quinine ethyl carbonic acid ester.

Actions and Uses.—Euquinine is claimed to have the same action as quinine, with the advantage of being tasteless, owing to its insolubility in water and alkaline media. **Dosage.**—The same as quinine. Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfurt a. M. (Merek & Co., New York).

EURESOL.

Euresol, $C_6H_4(OH)(CH_3COO) = C_8H_9O_3$, an acetic acid ester of resorcinol (1,3-phen-diol).

Actions and Uses.—Its action is similar to that of resorcinol, but milder and more lasting because of the gradual liberation of the phenol. **Dosage.**—It is applied in 5 to 20 per cent. ointments and in acetone solution. Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York.

EURESOL SOAP.

A soft soap, supplied in tubes, containing euresol, eucalyptol and oil of turpentine. Prepared by Knoll & Co., Ludwigshafen and New York.

EUROPHEN.

Europen, $C_6H_5(C_6H_5)(CH_3)(OI).C_6H_5(CH_3)(:O)(CH_3) = C_{22}H_{29}O_2I$, a condensation product of molecules of isobutylorthocresol, with 1 atom of iodine, analogous to Thymolis Iodidum, U. S. P.

Actions and Uses.—Its action is similar to that of iodoform and thymol iodide. It is claimed especially to be useful in the treatment of venereal ulcerations. **Dosage.**—Europen may be given internally in the form of pills in doses of from 0.2 to 0.3 Gm. (3 to 5 grains). Locally it may be used as

a dusting powder in substance or mixed with an equal quantity of finely powdered boric acid, as an ointment, with wool fat (lanolin), or as a 5 per cent. embrocation, dissolved in olive oil. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

FERRICHTHYOL.

A derivative of ichthyol in which about 2.5 per cent. of iron is contained.

Actions and Uses.—It is said to be alterative, antiseptic, hematinic and tonic. It is recommended in anemia, chlorosis, etc. Dosage.—1 to 2 Gm. (15 to 30 grains) in tablets. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York.)

FERRIPYRINE.

A name applied to a product identical with Ferropyrine, which see. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Höchst a. M. (Victor Koechl & Co., New York).

FERROPYRINE.

Ferropyrine, $(C_{11}H_{12}N_2O)_3 \cdot (FeCl_3)_2$, a compound of antipyrine and ferric chloride, containing about 36 per cent. of ferric chloride and 64 per cent. of antipyrine. **Actions and Uses.**—It is hematinic, hemostatic, astringent, analgesic and tonic. Its styptic action is pronounced and said not to be accompanied by irritant effects. According to Fraenkel, it combines with its hemostatic properties the injurious by-actions which limit the application of ferric chloride as a hemostatic. Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder, with sugar and peppermint, or in solution. Externally 1 to 15 per cent. solution as injection, to 20 per cent. solution or pure for hemorrhages. Manufactured by Knoll & Co., Ludwigshafen.

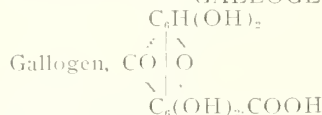
FORMALIN.

A name applied to Liquor Formaldehydi, U. S. P. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

FORMIN.

A name applied to Hexamethylenamina, U. S. P. Manufactured by E. Merck, Darmstadt, (Merck & Co., New York).

GALLOGEN.



hydrous ellagic acid prepared from Divi-divi, the pods of *Caesalpinia coriaria*, containing more than 50 per cent. tannin.

Actions and Uses.—Gallogen is an astringent and antidiarrheic, slowly decomposed in the intestinal tract, thus exerting its astringent action gradually during its passage. It has been recommended in dysentery, cholera infantum, diarrhea, and is said to be useful even in those of a syphilitic or tuberculous origin. Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for children; 0.6 to 1 Gm. (10 to 15 grains) for adults, suspended in neutral or slightly acid media. Manufactured by Ad. Heinemann, Eberswalde (C. Bischoff & Co., New York).

GERMICIDAL SOAP.

A solid product containing 2 per cent. of mercuric iodide in combination with hard soap.

Actions and Uses.—It is claimed to be a disinfectant which does not coagulate albumin nor corrode steel or nickel. It is recommended for the disinfection of the hands and for washing out infected cavities. Dosage.—Applied externally, dissolved in water. A mild form is also prepared containing 1 per cent. of mercuric iodide; also a soft soap containing 1 per cent. of mercuric iodide. Prepared by Parke, Davis & Co., Detroit, Mich.

GLUTOL-SCHLEICH.

A chemical combination of gelatin and formaldehyde.

Action and Uses.—It is claimed that while in itself non-aseptic, non-irritant and non-toxic, it becomes antiseptic and bactericidal in contact with living cells, in consequence of the elimination of nascent formaldehyde, which is split off very slowly but steadily. Dosage.—It is employed undiluted as a dusting powder, etc. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

GLYCERIN EMOLLIENT.

A mixture containing: Oil of gaultheria, 2 Gm. (30 grains), boric acid, 23 Gm. (34 ounce), corn starch, 88 Gm. (3 ounces), glycerin, 885 Gm. (28.5 ounces), tragacanth, 17 Gm. (263 grains).

Actions and Uses.—It is intended for use as lubricant in gynecologic and surgical practice. Dosage.—It is put up in collapsible tubes and is to be applied to the dry skin. After use it can be washed off in a stream of water. Prepared by Parke, Davis & Co., Detroit, Mich.

GLYCEROPHOSPHATES.

The salts of glycerophosphoric acid, $H_2(CH_2OH.CHOH.CH_2)PO_4$; usually the two remaining hydrogen atoms of phosphoric acid are replaced by the base: $Na_2(CH_2OH.CHOH.CH_2)PO_4$.

Actions and Uses.—These salts were introduced as "nerve foods" and tonics on the theory that their phosphorus, being a step nearer lecithin, is assimilated more readily than that of hypophosphites. Neither the experimental nor the clinical evidence is considered conclusive by all authorities. Dosage.—The potassium and sodium salts may be given hypodermically 0.2 to 0.25 Gm. (3 to 4 grains) in normal saline solution, or per os 0.25 to 0.65 Gm. (4 to 10 grains) in water or syrup. The calcium, iron, lithium, magnesium and manganese salts 0.2 to 0.65 Gm. (3 to 10 grains) doses, preferably in the form of tablets; the quinin salt in 0.1 to 0.33 Gm. (1½ to 5 grains), and the strychnine salt in 0.001 to 0.003 Gm. (1/60 to 1/20 grain) doses.

GUAIACOL-SALOL.

Guaiacol-salol, $C_6H_4.OH.COOC(C_6H_4.OCH_3)=C_{14}H_{12}O_4$, the stillylic ester of guaiacol, analogous to salol.

Actions and Uses.—This compound acts like its constituents, being antiseptic and antirheumatic. It is recommended in phthisical diarrhea, dysentery, rheumatism, marasmus, chorea, etc. Dosage.—1 Gm. (15 grains). Manufactured by the Fabrik von Heyden, Radebeul near Dresden (Merck & Co., New York).

GUAIAMAR.

Guaiamar, $C_6H_4.OCH_3.O(CH_2OH.CHOH.CH_2)_2$, 1:2 — $C_{10}H_{14}O_4$, the monoguaiacol ester of glycerin.

Actions and Uses.—The chief value of guaiamar arises from the liberation of guaiacol, partly in the stomach and partly in the intestinal canal, being split up by the gastric and intestinal contents with the assimilation of one molecule of water into guaiacol and glycerin. By this evolution of guaiacol it is believed to exert a useful antiseptic action in the intestinal canal. Moreover, it is asserted that it is absorbed by the skin as readily as by the alimentary canal, and that it is without effect on the sound tissue, but becomes effective at the location of the diseased part. It is said not to interfere with the normal process of digestion, but, on the contrary, to be followed by decided tonic action. It is recommended as a substitute for guaiacol in all cases where the latter is indicated. In the form of ointment it has been recommended in acute articular rheumatism. Dosage.—0.3 to 1.3 Gm. (5 to 20 grains) in capsules or dissolved in warm water. Locally, in the form of 25 per cent.

ointment with wool fat (lanolin), by itself, or combined with belladonna, zinc or mercurial ointment, etc. Manufactured by Mallinckrodt Chemical Works, St. Louis.

(TO BE CONTINUED)

PURE FOOD COMMISSION NOTES.

By George H. Kress, C. D., Secretary, Los Angeles, Cal.

The Los Angeles members of the State Pure Food Commission, under guidance of the Health Officer of Los Angeles, Dr. L. M. Powers, who is also the chairman of the Pure Food Committee of the Los Angeles County Medical Association, recently made two dairy inspection tours, each trip covering about seventy-five miles of territory. Some two score or more dairies were rapidly inspected, the thought being to give the members of the Commission a somewhat better conception of the many difficulties met with by the health officers in their efforts to make dairymen use proper cleanliness in their methods of procuring milk.

Not much attention was paid to the matter of tuberculin-tested herds. Here and there a dairyman was found who of his own volition had had his herds tested. The sentiment amongst dairymen at the present time is, however, not of a character to induce them to engage in this work of their own accord. At least, such is the case so far as the Los Angeles dairymen are concerned. In Pasadena it is different, for that city has an ordinance whereby it is obligatory for dairymen to have all cattle tested. This provision of the Pasadena dairy ordinance went into effect only recently, and not without some opposition on the part of one or two of the largest milk dealers.

The good effects of the provisions of the Los Angeles Dairy Ordinance, with its more adequate inspection, is already shown in the much better condition of the stanchions and the corrals. The dairymen have learned to know that the inspections of the health officer's deputies mean business, and that notices to keep the dairy surroundings in clean condition must be obeyed. As a result of this more systematic and thorough inspection, not an inconsiderable number of the worst offenders have already advertised their places and cattle for sale and are going out of business. With the worst offenders out of business, the task of educating the other dairymen up to still higher standards will be considerably lightened.

The barns and stanchions of most of the dairymen were built some years ago, and the rather poor hygienic arrangement and architectural construction of these structures show what are the results when there is no supervision to protect such a very necessary food product as milk.

Each dairyman built his barn according to his own conception of what such a structure should be, modeling usually after poorly adapted Eastern styles, and as a result, there is a hodge-podge of architecture that is but poorly adapted in many instances to the needs for which such structures were intended.

The Pure Food Commission hopes to be able to present, some time soon, plans of dairy structures that will be both hygienic and economical in construction. If plans of such structures could be found on the walls of our health offices, we believe dairymen would be only too glad to avail themselves of the suggestions.

Among dairies visited, several had cement floors for the stanchions. There is a prevailing sentiment that the cement floors are harmful to the cattle. This may be true of the East where cattle are obliged to remain in the barns and stanchions almost the entire day, but such an objection can not be applied with very much force to Southern California, where

practically the cattle are out in the open all the time, excepting the brief periods for milking.

There can be but little doubt that the cement floors can be kept in a much more sanitary condition than the usual wood planking with its cracks and holes on the surface and the accumulation of filth beneath.

It is surprising when one considers that in the Southern California country where only a roof is needed for the cattle, that so many cumbersome structures should have been erected, when the same amount of money, labor and work could have erected roomy, commodious, well ventilated and sanitary buildings.

The mode of construction of the milk houses where the milk is taken to be cooled, is even more disappointing than that of the barns or stanchions. Until the passage of the recent dairy ordinance, many of the dairies, especially the smaller dairymen, made not the least pretense of having such a separate structure, but would keep their delivery cans in the milking barn or stanchion. Under the new law, this building must be at least fifty feet away from the milking building, and must be supplied with apparatus for cooling the milk.

The fault that seems to apply to nearly all of such milk houses, is the lack of ventilation. The buildings are too solidly and compactly erected, with a small screened window or two for ventilation. It would seem to be a much wiser proceeding to erect a single or double lattice-work structure, such as is used by florists, and to cover this lattice-work structure with screening. Such a building gives shade and at the same time allows free access to air and light, and really is cooler than a stuffy shed, and with the cement floor gives much better chances for keeping the milk in hygienic surroundings, than when the milk house is nothing more than a hot, stuffy box.

The fly question is a serious one in connection with nearly all of these milk houses. It is curious how many of the dairymen supply good screens on the doors and windows and then will leave one or more openings of about half a foot or more square at some point, where on the outside the wall is black with flies. On calling the attention of such a dairyman to the presence in the milkhouse of flies, he invariably replies that the doors and windows are screened and seems to take no account of other means of ingress.

The Committee saw several milking machines in use, the most successful types being those operated not by foot-power, but by a small distillate engine. The dairymen who use these machines claim that the cattle do not object at all. Certainly, if they do in the beginning, they rapidly become accustomed to the new arrangement. The construction of these machines is comparatively simple and a conscientious dairyman should have little difficulty in keeping the tubing clean. These machines milk the cows quite dry, although the dairymen usually milk each teat before leaving the cow. One of the men who is using them, says they are a great blessing and that in addition to being cleaner and far less troublesome than unsatisfactory, ignorant dairy hands, they are far more economical and that they pay for themselves in a comparatively short time. Several of these machines have been in use for some months now, and this testimony means that they will ultimately come into general vogue, for if they are a success now, then, with whatever defects they may have, remedied, they must of necessity become still greater successes.

The Commission is in favor of such milking machines because the chance for bacterial contamination is much lessened. They are far to be preferred to dirty, ignorant, obstinate dairy hands.

The Commission spent a number of evenings in

joint session with Dr. L. M. Powers, Health Officer of Los Angeles, who desired to have Los Angeles adopt an ordinance that would minimize the smoke nuisance. An ordinance was finally drawn up and presented to the Council and will come up for first consideration on July 13th. Its fate is hard to foretell, for the large gas and other corporations will be pitted against it.

Air is a food and on this ground the Commission took up this subject. Meetings were held with engineers and visits were made to the gas plant and other places. There can be but little doubt but that smoke can be prevented from ordinary furnaces using oil as a fuel. The Gas Company and railroads claim they can not prevent it. They are the major offenders, likewise the possessors of greatest political influence.

If the Commission fails in this effort, it intends to bring the subject up again. The cause is a righteous one, the people are in favor of such an ordinance, and all that is needed is an expression from them as persistent and as powerful as that from the big corporations. When this expression is forthcoming the legislators will no doubt be glad to pass the ordinance.

The Commission recognizes the vested material interests of the gas and other corporations, but recognizes also the vested hygienic interests of the people of Los Angeles. It feels the rights of the people in such a matter are vital and equally important. In future issues we will chronicle the further fate of this proposed ordinance.

We urge all Presidents of County Medical Associations who have not already done so, to send in to the State Commission, the names of the members who compose the respective County Pure Food Committees. Unless this is done, much extra correspondence and work will be transferred to the State Commission. The address of the State Commission is Stowell Block, Pasadena, California.

PUBLICATIONS.

Folia Urologica.

With Professor James Israel of Berlin as Editor-in-Chief, Professor A. Kollmann of Leipzig, Dr. G. Kulisch of Halle and Dr. W. Tamms of Leipzig as associate editors and other principal urologists of Europe as collaborators, these new international archives are announced by the house of W. Klinkhardt, Leipzig. Exhaustive original articles with colored plates and illustrations will be the principal feature of *Folia Urologica*. Contributions will be published in the four languages that are officially used in Congresses and each paper will be summarized in the three other languages. The new publication will contain a department entitled "Events in Urology" in which the regular collaborators will periodically report on the advances in this specialty, after having tested them critically in their respective services and laboratories. Finally *Folia Urologica* is to serve as a means of collecting the annual reports on urological work in hospitals, clinics, etc., throughout the world. With a view to publishing contributions as quickly as possible, the issues of *Folia Urologica* will appear as often as required. Contributions from North, Central and South American authors may be sent to either of the American editorial representatives, William N. Wishard, M. D., Newton-Claypool Building, Indianapolis, Ind., or Ferd C. Valentine, 171 West Seventy-first street, New York.

Retinoscopy (or shadow test) in the Determination of Refraction at One Meter Distance With the Plane Mirror. By James Thorington, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in medicine; Ophthalmologist to the Elwyn and Vineland Training School for Feeble-Minded Children. Fifth Edition, Revised and Enlarged. Fifty-four Illustrations. Philadelphia, P. Blakiston's Son & Co. 1906.

This small book, now in its fifth edition, calls for little comment. It is an abstract of the author's more extensive writings on retinoscopy. The development of this objective method of determining refraction errors is so intimately linked with Dr. Thorington's name that it gives assurance of authoritative statement. Little used at first, the test is now conceded to be of the greatest value in a certain class of cases, particularly in nystagmus, amblyopia, and in examining young children, the feeble-minded and illiterates. The methods described by the author are simple and clearly given, while the illustrations admirably serve the purpose for which they are designed. Above all other things, the book is practical.

A. J. L.

Indications for Operations in Disease of the Internal Organs. By Professor Hermann Schlesinger, M. D., Extraordinary Professor of Medicine in the University of Vienna. Authorized English Translation by Keith W. Monsarrat, M. B., F. R. C. S., Ed. Surgeon to the Northern Hospital, Liverpool. New York, E. B. Treat & Co. 1906.

Professor Schlesinger has written on a subject which is admittedly of the greatest importance at the present time. The question of the indications for operations is one which is constantly presenting itself to the practitioner, and one which is often difficult of decision. With this idea in mind the book has been written. In each chapter remarks on etiology, pathological anatomy, clinical course, diagnosis, and differential diagnosis have been included to enable the practitioner to obtain quickly a general grasp of the condition under consideration. And at the end of each section an excellent bibliography is appended. In the original the work is so well known that it requires no special commendation at this time. The translation is good. We recommend its careful study by all classes of physicians.

A. J. L.

Our Children. Hints from Practical Experience for Parents and Teachers. By Paul Carus. Chicago: The Open Court Publishing Company. 1906.

This charming little book on the education of children is of particular interest to parents and professional teachers of the young, but it may be profitably read by all classes of readers. For some years the importance of the subject has received more or less universal recognition, nevertheless the first education of babies is generally left to uneducated nurses, who usually have not the slightest idea of the sacredness of their trust and know very little about the training of infants. The first impressions made on a child's mind are especially important as they form the basis of the child's whole future development, and they remain for a long time, sometimes forever, the standard by which all later impressions are measured. Should we not, therefore, exercise the greatest care, and instead of leaving the first mental impressions of children to accident, see to it that they are throughout correct?

It does not seem necessary to us to review the

book in detail; the various phases of child-education are briefly and well considered, and many useful practical hints are given.

A. J. L.

A Practical Text-Book of Midwifery for Nurses.

By Robert Jardine, M.D., Edin., M.R.C.S., Eng., F.F.P. & S., Glasg., F.R.S., Edin., Professor of Midwifery in St. Mungo's College, Glasgow; Senior Physician to the Glasgow Maternity Hospital, Glasgow; Examiner in Midwifery to the Scottish Conjoint Board; Formerly Examiner in Midwifery to the University of Glasgow; Late President of the Glasgow Obstetrical Society; Author of Clinical Obstetrics. Third Edition, London: Henry Kimpton; Chicago: W. T. Keener & Co. 1906.

This small book is based on the lectures given by the author to the nurses in the Glasgow Maternity Hospital. While primarily intended as a text-book for them, the arrangement and scope of the work is such that it may be profitably read by all. Dr. Jardine's wide experience with the needs of nurses enables him to speak with particular competence upon this matter. He has gone rather fully into the subject, possibly too much so from the standpoint of some. For our own part we believe that the more a nurse knows about the difficulties of midwifery work, the less likely is she to allow her cases to drag on until they are beyond hope, before she sends for skilled assistance. An obstetric nurse incurs a great responsibility since the treatment of the patient during the puerperium is largely in her hands. The more complete her knowledge and training, the more is the well being of her patient assured. Most of the training schools offer, at the present time, few and in many instances no opportunities at all for adequate schooling in obstetrics. It is high time that those responsible for this should be made to fulfill their obligations to both the public and the profession. Practical work and a theoretical course such as that so clearly and entertainingly outlined by Dr. Jardine would do much to remedy the present situation.

A. J. L.

The Harvey Lectures Delivered Under the Auspices of the Harvey Society of New York. 1905-6. Philadelphia and London; J. B. Lippincott Company, 1906.

The busy practitioner, already overburdened with clinical literature, is rarely able to follow the results of research work usually scattered in specialized and often inaccessible journals. On this account much that is of value is either lost to him completely, or greatly delayed in reaching him. For this reason the Harvey Society was organized in 1905. It was felt that the medical profession would welcome an annual series of lectures on the purely experimental side of medicine. This book consists of the thirteen lectures given during the first year of the Society's existence. The character of the lectures precludes any extended review; we can do no more than give a list of the subjects discussed. Prof. Hans Meyer of the University of Vienna discussed the Theory of Narcosis; Prof. Carl von Noorden, also of the University of Vienna, Modern Problems of Metabolism; Prof. Frederick G. Novy, of the University of Michigan, Trypanosomes; Dr. P. A. Levene, Autolysis; Dr. W. H. Park, Serum Therapy; Prof. Lewellys F. Barker, of Johns Hopkins University, The Neurons; Prof. Frederick S. Lee, of Columbia University, Fatigue; Prof. L. B. Mendel, The Formation of Uric Acid; Prof. T. H. Morgan, of Columbia University, The Extent and Limitations of the Power to Regenerate

in Man and other Vertebrates; Prof. Chas. S. Minot, of Harvard University, On the Nature and Cause of Old Age; Prof. J. C. Webster, of the University of Chicago, Modern Views Regarding Placentation; Prof. Theobald Smith, of Harvard University, Some Phases of Tuberculosis; Prof. W. H. Howell, of Johns Hopkins University, The Cause of the Heart Beat.

A. J. L.

Rhythmotherapy. A Discussion of the Physiologic Basis and Therapeutic Potency of Mechano-Vital Vibration to which is added a Dictionary of Diseases With Suggestions as to the S. Wallian, A. M., M. D., President American Medico-Pharmaceutical League; Ex-President Medical Association of Northern New York; Member New York State and County Medical Societies; Fellow of the American Electro-Therapeutic Association; Member of the Medico-Legal Society, Associate Editor Medico-Pharmaceutical Journal, etc., Chicago. The Ouellette Press, 1906.

Rhythmic motion as a therapeutic measure has heretofore attracted little attention. First introduced by Vigoroux of Paris, and later experimentally investigated by Boudet and Granville, mechanical vibration as a curative agent has recently been put upon a more substantial basis. Occasional reports of its usefulness have appeared in the medical journals from time to time; but written for the most part by enthusiasts, this literature has not inspired the confidence of more critical minds. Hence rhythmotherapy has not received the trial which it probably deserves. That it may be of use in some cases is certain, but that its usefulness is so great as many of its advocates maintain, is doubtful. For experimental and clinical claims made for it let us examine Dr. Wallian's brochure.

Starting with the idea of Richet that the external world is neither more nor less than an embodiment and materialization of either blending or contrasting vibrations, the author formulates the following postulates: Health is a condition or sequence of harmonious vibrations; disease is interrupted or arrhythmic vibration, while death is the cessation or permanent interruption of organic vibrations. This may or may not be so; we can neither prove nor disprove it. At all events that is the theory from which the rationale of the treatment is derived. Accordingly, the more nearly remedial agencies en rapport with these "simple laws" the more prompt and satisfactory the results. From the laboratory side there is some evidence that physiological activity may be modified by mechanical vibration. For instance, Boudet was able to induce more or less anesthesia of nerves, and Colombo found that it promoted glandular activity. Clinically the author brings forward no convincing evidence of its efficiency in disease, although the list of conditions in which he claims good results extends from abscess, acromegaly, adenoma and anemia through hemophilia, insanity, movable kidney and cerebrospinal meningitis to tetanus, uric acid diathesis, and warts. We also read that "a phase of vibratory therapeutics which has as yet received scant attention—relates to the inauguration and cultivation of immunity." In brief, although written in excellent and entertaining style, the book is a very great disappointment. Assumptions are too often paraded in the guise of facts; and the plan of the work is marred by the introduction of inconsequential and irrelevant material. With fine possibilities before him, the author has utterly failed to give us a clear or critical estimate of the value of rhythmotherapy.

A. J. L.

The Nursling; The Feeding and Hygiene of Premature and Full-Term Infants. By Pierre Budin, Professor of Obstetrics, University of Paris; Director of the Clinique Tarnier; Member of the Academy of Medicine. Authorized translation by William J. Maloney, M.B., Ch.B. Fellow of the Obstetrical Society of Edinburgh; Ettles Scholar Houldsworth Research Scholar, etc. With an introduction by Sir Alexander R. Simpson, M.D., LL.D., D.Sc., Emeritus Professor of Midwifery and Diseases of Women and Children, University of Edinburgh. One hundred and eleven diagrams in color and other illustrations. London, The Caxton Publishing Company; New York, Imperial Publishing Company. 1907.

To those unacquainted with the progress of infant feeding in France this book of Pierre Budin will seem revolutionary. It is a simple setting forth of work done, a modest but sufficient statement of facts observed and principles deduced during years of wise and patient clinical work. Many of the deductions run counter to the accepted teaching and practice of Americans. It was Budin who first began the routine use of sterilized undiluted milk as an addition to or a substitute for mother's breast milk. Of late there has been an attempt to popularize the method in this country, at the expense of the time-honored percentage plan, and certainly if simplicity were the only recommendation needed the plan would find instant adoption. In brief, it is to feed a child each day a quantity of undiluted sterilized cow's milk, a little more in quantity than one tenth the body weight; a child weighing 6,000 grams (12½ lbs.) would get approximately 650 grams (22 oz.) of milk.

The book is illustrated with many beautiful and ingeniously planned charts, one of which shows that while the maximum death rate from diarrhea of bottle-fed Parisian babies a year old and under was 53 per cent of the total death rate at this age, not a single infant in Budin's service died from digestive disorders. More striking still is the record made during the seven reported years. In this time 435 nurslings were cared for, 197 were bottle fed. The mortality percentage for the 435 is 7.3, that is 32 patients, of which but one died of intestinal disorder, and this fatality was traceable to unclean milk given by the mother during the child's absence from the physician's supervision.

Sterilized milk is a bugbear to us in this country. To its influence has been attributed numerous ills; especially is it held to be the progenitor of scurvy, and many physicians, who, confronted by the filthy milk of San Francisco, resort to sterilization, do so fearful that malnutrition or scurvy may result in later infancy. But here we have the comforting testimony of one who has in a large clinic during a decade exclusively used sterilized milk and who assures us that he has yet to see a case of scurvy, that no child in his charge has shown any sign of rickets and that but two cases of eczema have developed during his conduct of the clinic. The big belly, so common in this country, Budin has seen but once, and that in a child who when the diet was changed from 82 ounces of diluted milk to 30 ounces of undiluted milk, became normal. The white, putty-like stool is also a rarity, and disappears on reduction of the amount of milk. There is no doubt that if the plan is as efficient as Budin represents, it is a boon alike for our babies and for those physicians who have struggled long with the mysteries of the percentage plan. Eustace Smith taught that many babies unable to digest low dilutions of city milk could when they were, as Smith put it, "sent to the cow," digest whole milk. The reviewer has seen babies thrive on undiluted skimmed milk who before beginning that food were doing badly on approved percentage mixtures, and has for years believed and taught that milk proteid is rarely indigestible, pro-

vided that fat is not present in sufficient quantity to interfere with its digestion. That the gospel of concentrated feeding is not wholly accepted even in France is evidenced in this book, where the work of Dufour, of Decamp, is quoted at length. Dufour uses dilutions with added fat and sugar, but sterilizes, and his comparative figures are almost as striking as those from Budin's clinic.

Great stress is laid on periodic weighings and many charts are given to show the effects of disease, bad feeding and changes in environment on the infant. Charts illustrating that with the eruption of teeth the child's weight either remains stationary or diminishes are also figured and are of interest in relation to the unsettled question—do erupting teeth disturb a child's health? The warnings against over-feeding and too frequent feedings are numerous and emphatic and practically all the digestive ills of infancy are laid to these two faults of regimen.

Many interesting facts are brought out in relation to breast feeding. French mothers are encouraged to nurse their offspring, and the development of wet nursing has been brought to a science. Babies are weighed before and after feeds and an accurate record is thus obtained of the amount of food taken. Stress is also laid on the necessity of making fat determinations from time to time. It is claimed that few mothers need fail to nurse their children if they are persistent. The case is quoted of a mother who was in despair of feeding her infant, but she was encouraged to put the child to her own breast several times daily although it was being suckled by a wet nurse and her maternal devotion was rewarded, for after 9 days a flow of milk was established, in quantity and quality sufficient for the infant's needs. The astonishing statement is made that wet nurses may under the stress of necessity be made to develop prodigious quantities of milk, sufficient in fact to properly nourish four infants at one time. The average yield of each wet nurse was 76 ounces a day. Much stress is laid on the personal hygiene of the nurse and especially on the fact that fatigue and emotion are most potent factors in reducing both the amount of milk and its digestibility. Menstruation also is shown often to have the same effect and it is advised to supplement the breast, during the menstrual periods, by bottle feeds. Pregnancy even when complicated by albuminuria is not in the author's mind a valid reason for weaning.

The earlier chapters in the book are given over to an account of the care and feeding of premature infants and weaklings and is of fascinating interest. Budin is a pioneer in this line with an experience second to none. He epitomizes his advice as follows:

"Strive to prevent the chilling of the weakling." This is done by using an incubator. A fall of temperature may prove fatal to the child.

2. Carefully supervise its feeding. Underfeeding means an attack of cyanosis, overfeeding digestive troubles and diarrhea. The amount of milk fed should be about 1/10 the child's weight.

3. Avoid all exposure to contagious disease.

That the cyanosis of early infancy is an effect of underfeeding is an original observation which has now the support of many clinicians. Another original observation is that one of the forms of sclerema neonatorum is the result of chilling and disappears when the child is properly incubated.

Aside from the interest of its subject matter, the volume is a satisfactory example of bookmaking, beautifully printed and illustrated, and well bound. It is altogether a volume that no physician, however much he may differ from the author's views, will regret having read, nor having read it, will he find it possible to withhold a tribute of praise for the stimulating enthusiasm with which it is written.

R. L. P

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VOL. V

SEPT., 1907.

No. 9

EDITORIAL NOTES.

It is of advantage to readers of a publication to place before them advertisements of good articles and new things as they come on the market. There is no reason why a medical journal should not extend the same privilege to its readers and let them see what manufacturers have to say in their own behalf about their goods, so long as the goods are honest and the statements are kept within the range of probability. For these reasons, and for others, the JOURNAL has always opposed the argument that there should be no advertising pages in a scientific or medical journal. And, furthermore, the addition of advertising pages and the receipt of the revenue derived from them, permit of extending the size of the journal, improving the quality of its general make-up, etc. But the manufacturer is in the business to sell goods; he puts his advertisement in your JOURNAL with the hope that you will read it, be interested in what he says of his goods, and at least try them. He pays money to your State Society for that purpose and so shows his faith in the JOURNAL of the Society, and in the interest of its members. We think he is amply justified, but we ask your further and continued interest and support. Do not hesitate to send for information, catalogs, samples, etc., pertaining to anything in which you may be interested. This applies particularly to catalogs of publishers and instrument manufacturers as in no other way can many of our members be kept in touch with all the new things that are put out. Our pages still contain the advertisements of

a few things which have not yet been approved by the Council on Pharmacy and Chemistry, but if they are still unapproved at the first of the coming year, the advertisements will be dropped. We wish to place before our readers the advertisement of no preparation that has not been thoroughly looked into by the Council and approved as to the truth of its statements and the accuracy of its composition. Such being the case, your Publication Committee has no hesitancy in urging your continued and increased interest in the advertising pages of your JOURNAL. You will note some new advertisements; take an interest in them and in the manufacturers; we can assure you that they are in every way reliable, or they would not appear in the pages of your JOURNAL. But if you wish them to continue to be interested in your JOURNAL and to aid in its support, you must show an interest in them, and, other things being equal, use their wares. Will you not do it?

Reading between the lines of the very temperate report submitted by the Health Officer, Dr. Watkins, to the Board of Supervisors of San Francisco, one can readily detect a long line of graft, corruption,

FRIGHTFUL CONDITION.

neglect, maladministration and criminal carelessness. The condition of things in the county health institutions of the greatest city on the Pacific Coast, as indicated in the report which the JOURNAL gladly publishes elsewhere in this issue, can only be regarded as frightful. The City and County Hospital would be a disgrace to medieval times; for years it has been such a menace to the lives of those who live in it that very many graduates have refused to accept its internships, and more than one case of death from tuberculosis has been practically traced to the thoroughly infected and infested "hospital." Just think of the menace to those who are sick or injured and must of necessity seek aid in such a filthy institution! At the present time, this the City and County Hospital of San Francisco, is the worst focus of bubonic plague in the city! When the Union Labor party came into control of things in San Francisco some of our members thought that they would see to it that the City and County Hospital was renovated. The JOURNAL some years ago pointed out the disgraceful condition of the place and also called attention to the fact that the persons who have to go to such a hospital are not the well to do, but the poor and the poorly supported of the laboring class—largely members of the Union Labor party—of course always excepting the "walking delegates" and the "executive secretary" and "chairman of the strike committee," all of which gentry enjoy goodly salaries and emoluments and not infrequently ride about in automobiles. In up-building the County Hospital they would have done something to help themselves and their class and would have got something out of the wreck. But no, it was not to be. Graft, politics, patronage, were in control and the very last cent must be

wrung from the city treasury to enrich the few rather than to care for the many. The various Boards of Health which have done their little best to help along the disgrace of San Francisco during the past years, are in the main responsible and from what we can learn, the present board is quite as bad, negatively if not positively, as any that have preceded it. We understand that the present Health Officer, a thoroughly "class A" man, has made a number of reports to the Board of Health which have been carefully pigeon-holed—and nothing done. He is practically helpless without the backing of the board, and it seems to be composed of men who illustrate that the human animal may exist without a spinal column. The acting mayor, Dr. Taylor, having had a medical education and being closely in touch with things medical, should surely understand the tremendous necessity of guarding the health of his people and we can not but believe that he will take steps to get rid of a board that is so far from being a decoration to the city and see to it that something is promptly done to improve conditions.

The Oregon State Medical Association is to be highly congratulated on having, at last, rid itself of

OREGON CLEANSED.

the gentleman who has represented (?) it in the House of Delegates of the American Medical Association for some years past. At one session this individual announced on the floor of the House that he had been called "the advance agent of the proprietary interests," and did not object to the designation. For several years past he has been persistently endeavoring to make trouble and stir up strife in the House of Delegates, though always, and we say it with great pleasure, without result. His attacks upon the Association and its Board of Trustees have been so witless as to create a feeling of intense surprise that any man would care to present himself in such a peculiarly distorted light before his fellows. And the animus of the attacks has been so obvious as to excite disgust. Like many another owner and editor of a privately owned and "published-for-profit" medical (?) journal, he doubtless sees clearly the hand-writing on the wall and reads the inscription which the Council on Pharmacy and Chemistry is writing—the death warrant of the fraudulent or worthless nostrum exploited to physicians by means of the so-called "independent" medical (?) press. Most of those predatory journals make money out of the advertisements of the rankest kind of nostrums. Take any one of them and cut out the advertisements of these things and it would soon die—as it well deserves to die. The decent manufacturers and advertisers are coming to see that it is no credit to them to be placed cheek by jowl with some fake, in the pages of such journals, and they are cutting out publications of this class. Conversely, the advertiser of the fake stuffs, who can no longer get space in the clean journals, is spending a great deal of money advertising in the "independent" (independent of all consideration or regard for the profession on

which they are parasites) journals. Not only was the gentleman in question not re-elected a delegate to the American Medical Association, but he was also rejected as an alternate. Oregon, congratulations to you!

We publish this month the first report from the committee of the Board of Examiners having in charge that portion of the new law which requires the board to prosecute violations of the statute. It must be

ILLEGAL PRACTITIONERS.

understood that it is one thing to require certain things to be done and quite a different thing to do them—especially when no machinery is provided. We understand that there was practically no money available for this part of the work of the board, and without money but little can be done. Detectives must be employed to get evidence and attorneys must be hired to conduct the prosecutions; all of which necessitates the expenditure of money. The chairman of the committee, Dr. Mattison, of Pasadena, was willing, fortunately for the people of his community, to advance the funds necessary to begin the work; also fortunately, he enlisted the hearty support of the prosecuting officer of Los Angeles county. An excellent start has been made, as may be seen from the report, and there is no reason to believe that the work will in any measure be neglected. The State is large, however, and Dr. Mattison can not very well extend himself and his energies into every county in it. The Board of Examiners, we believe, is ready to do everything in its power, but the board itself is without any considerable funds to do the work and can not go into the field and hunt up illegal practitioners. If the various county societies will take this matter up with the board, through the Associate Secretary, Dr. Dudley Tait, 1879 Sutter street, San Francisco, or through Dr. F. C. E. Mattison, Stowell Building, Pasadena, undoubtedly every possible aid will be given in getting the work started in various places. When once enough convictions have been secured and enough fines paid in to create a fund, the work of ridding the state of the quacks and charlatans who live on the misfortunes of their victims will go on well and smoothly and without the necessity for calling upon outside help. But in order to get the work started and place the board in a position to carry it out, our county societies will have to lend their aid.

Again the JOURNAL calls your attention to the work and the suggestions of the Pure Food Commission of the State Society.

PURE FOOD COMMISSION.

Each month some notes from this commission appear in the pages of the JOURNAL and they should have the careful consideration of all of our members, but especially of the officers of county societies and of the pure food committees appointed by such societies. A great

deal of good work has already been done by this commission and very much may safely be expected of it in the future. In Pasadena and Los Angeles a decided improvement in the milk supply and the condition of some dairies is reported, and in Fresno, where the local board has been active for several years, conditions are said to be very much above the average. It is simply disgraceful that our profession should allow absolutely filthy milk to be sold when we know what it really is and the general run of the people who buy it and use it, do not. If we can once teach the consumer what he is really getting when he buys milk containing possibly two or three million bacteria to the cubic centimeter, and show him by actual illustration what a nasty dairy the milk comes from, and the filth that gets into it, we may confidently expect a very speedy improvement. But the laymen will not take any interest in this as long as they see that physicians themselves are willing to drink such milk and make no effort to stop its sale or call attention to its condition. In a great many counties there are excellent ordinances—entirely ignored and forgotten. In San Francisco, for example, there are sufficient good ordinances to secure a clean and wholesome milk supply, and to prevent the sale of impure foods of all sorts—if they were or could be enforced under present conditions. But the people do not seem to see any urgent necessity for their enforcement and they notice that there is no very emphatic demand from the medical profession—so what is good enough for the doctor is good enough for them. Get busy. There is plenty of work to do; do some of it.

The struggle for merely decent and proper treatment at the hands of the old line insurance companies, has been far from fruitless. Patience and persistent effort will accomplish a great deal, in the

WE ARE WINNING.

course of time, though we are prone to become impatient and believe our work is all for naught. It is with a great deal of satisfaction, however, that we note that the Equitable and the Mutual Life of New York, have re-established the minimum fee for all examinations for life insurance, of \$5.00. Good news! Now let us devote our attention to helping the five dollar companies, as before, and to industriously ignoring—and getting our friends to ignore—the three dollar companies. The medical directors of the Equitable and the Mutual desire to have their old examiners—those who refused to continue their connection with the companies when the fee was cut to three dollars—correspond with them as soon as possible. They advise the JOURNAL that the home office has sent a notice of the change in fees to all present examiners, but this may not come to the attention of the former ones. Do not be discouraged. If one is right—and in this instance there can be no two opinions as to the right—he will eventually win out, no matter what the odds are against him. Just keep pegging away and the

insurance question will be settled in due time. But stand together; let every physician in every county stand with his fellows and not stoop to the dishonesty of saying he will refuse the cheap work, and then do it. In the end it will profit him infinitely more to abide by the decision of his own people than to loose his own self-respect by doing underhand work. From the Mutual comes the following statement with the request that we place the information before our readers. This we do very gladly and without commenting, as we very well might, as to whether the rapidity with which the directors re-established the \$5.00 fee was in any part due to the most active campaign ever undertaken by medical men against corporate greed:

"This company has always appreciated the medical examiners' work, and adopted the graded fee schedule reluctantly (as you know, it refused to do so, some fifteen years ago when urged by other companies to join the majority) but a strong demand for economy, which applied especially to the cost of obtaining new business, seemed to necessitate retrenchment along this line; particularly, as the legislature of New York put a very sharp limitation on the amount which could be spent in obtaining new business and made it a criminal offense to exceed this. * * * After six months' trial, the company finds that its economies have been greater than necessary and there is in consequence a small unexpended surplus. As soon as it was demonstrated that this surplus existed, the first thought on the part of the company was to restore the old fee to the medical examiner."

Good, no matter what the real reasons may or may not be, good. Now let us see how long it will take the remaining \$3.00 companies to come to life and realize that good work is worth paying decently, and that cheap men are a mighty poor investment.

The coincidences brought to one's attention by the simple means of postage stamps are often very striking. The other day

THE WAY WE ARE "DONE." two interesting documents reached the JOURNAL office in the same mail delivery, and as they illustrate the process of "working" the American medical profession very beautifully, we think, you will be interested. The first is a folder-package stamped and postmarked Budapest, containing twelve tablets of a substance called "Purgen," and a very nicely gotten up circular setting forth the history of the discovery of this, of course invaluable, purgative, its chemical nature, physiologic action, glowing tributes to its high efficiency, absence of any and all bad or undesirable qualities, etc., etc. We are informed that Dr. Bayer & Co., Budapest, are the manufacturers and that Lehn & Fink, New York, are the sole agents for the United States. It is a really excellent piece of work and is well calculated to attract the attention of any physician who opens the package and glances through the

circular. From it, one would never in a thousand years regard the remedy as in any way verging upon the territory of the "patent medicine" class; it looks as though it were intended exclusively for physicians to prescribe and would never, never be offered to the public, *a la* California Fig Syrup, or Castoria. Yet how little we know! The other item which reached the office in the same mail was a letter from a member of the Society, temporarily in Europe, and was post-marked Prague. The peculiar soft quality of the paper at once attracted attention, as did a printed notice at the bottom of each sheet, which reads about as follows: "Purgen—Die hervorragendsten Professoren der Welt verordnen es taglich. Das mildeste, wohlschmeckendste Abfuhrmittel; kann sogar Sauglingen gegeben werden." (The most eminent professors in the world order it daily. The mildest, best tasting laxative; may, in fact, be given to sucklings.) Our correspondent, after stating that he has always been in accord with the fight of your Publication Committee against nostrums, etc., and that he desires, as a member of the Society, to aid in our work, says: "I send you this slip of toilet paper, taken from a toilet room in the foremost hotel in Prague, so that, if these people should ever attempt to put an ad in our JOURNAL, you may have this evidence of their advertising to the public. * * * Talk about Yankee ingenuity! Did you ever see a more appropriate advertisement than this!" And there you are. In the United States, ethical to the limit; work the physicians for all they are worth. In Hungary, and doubtless elsewhere in Europe, advertise (most directly!) to the general public. One can not but wonder whether "Lehn & Fink, Sole Agents for the United States," know of the advertising methods used to sell this stuff in Europe, and whether they have been supplied with a large quantity of this same toilet paper, with the truly appropriate inscription translated into English, for subsequent use in this country.

The present agitation against the use of false or worthless nostrums by physicians is not, as some with motives of their own would have us believe, entirely destructive. The illuminating information that has been gathered by the Council on Pharmacy and Chemistry, and published in the pages of the *Journal, A. M. A.*, has opened wide the eyes of medical men and has shown that the tremendous increase in the number of nostrums and "secret proprietaries" has been largely due to neglect of the old and well-established *materia medica*. The tendency to return to well known drugs and to single remedies is marked and is increasing with startling rapidity.

This tendency to return to the use of the old drugs whose action may be well understood has caused a demand for concise and reliable information for study and for ready reference. The Pharmacopeia is a bulky volume, but little adapted to the everyday use of physicians, and the National Formulary is a book that physicians seldom see. The American Medical Association has performed a very valuable task in issuing a little book entitled "The U. S. Pharmacopeia and the National Formulary," for sale by the Association, 103 Dearborn avenue, Chicago, price 50 cents. This little volume gives an immense amount of information regarding U. S. P. and N. F. preparations in convenient size and shape for ready reference. It ought to have a very wide distribution and a copy of it should be in the hands of every practitioner of medicine. In our mad rush for "short cuts" to relief we have overlooked the scientific considerations at the very base of our work in curing or relieving disease and have listened to the lies of the manufacturer—that a certain thing would cure a certain disease.

Realizing the neglect of the old, well tried and thoroughly understood drugs, and the present tendency to return to their use

A RETURN TO THERAPEUTICS.

which is a direct result of the unmasking of the nefarious nature of most of the nostrums that have been foisted upon our profession, the JOURNAL has for some time been endeavoring to secure a series of articles on therapeutics, so prepared as to be of assistance to the student; "student" includes the practitioner, for that physician who ceases to be a student ceases to be a useful and competent physician. We all grow "rusty" or "stale"; we all forget some of the things which it is right for us to remember, and we all need good advice from time to time. At last the JOURNAL has succeeded in getting the articles on this subject and you may expect to see the commencement of the series at no distant date. The work will be handled in a broad and thoroughly scientific manner, the pharmacology of the drugs mentioned being given, and with due reference to clinical administration. Indeed, the clinical side of the subject will be most accentuated. The patient, his ailment and how and with what to relieve him, may be said to be the keynote of these articles; and truly something of the sort has been for a long time needed. Too strong is the tendency to disregard the *patient* and to think of him merely as a "case"; too far have we followed our German cousins in this direction. This is quite amply illustrated by the abominable, but unfortunately very general use of the word "case" when patient is meant. We feel very confident that this series of articles, supplemented by the little book issued by the A. M. A., "The Pharmacopeia and the National Formulary," will be of distinct value to every one of our members.

CONSTRUCTIVE CAMPAIGN.

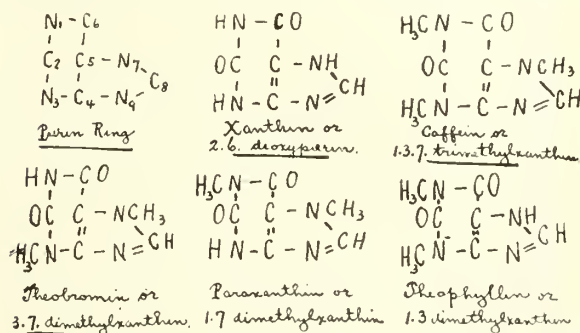
THEOPHYLLIN AS A DIURETIC.*

By ALBION WALTER HEWLETT, M. D.,
San Francisco.

Theophyllin is beyond doubt the most remarkable diuretic that we possess today. Though the drug occurs naturally in tea in small amounts, its wide medicinal use has only been made possible by its synthetic preparation. This synthetic product is placed on the market under the trade name of theocin.

The first clinical report on the diuretic use of theophyllin was published by Minkowski in November, 1902 (1). This was followed rapidly by favorable reports from numerous German clinicians (2, 3, 4, 5, 6, 7, 8, 9), as well as by many reports from Italian and a few from French observers. Curiously enough, very few articles have appeared on this subject in the English or American literature, though it is probable that the drug has been considerably used in these countries. In the present paper I propose to review some of the literature dealing with theophyllin and to present some personal observations on its use, with the hope of interesting those who have not used it, and of promoting discussion among those who have.

Theophyllin belongs to the caffein-theobromin group of diuretics. The chemical relations between the members of this group may, perhaps, be best appreciated by a little study of their rather complex formulæ (taken from 3). Starting from E. Fischer's purin ring with its nine numbered positions, we have first xanthin or 2.6. dioxypurin; i. e., the second and sixth positions of the purin ring are occupied by oxygen. Caffein



is 1.3.7. trimethylxanthin, the methyl groups taking the first, third and seventh positions on the purin ring. It is evident that by removing each of these methyl groups in turn we shall have three different dimethyl xanthins. Thus the 3.7. dimethyl xanthin is theobromin, which is extensively used as a diuretic, more especially as its sodium salicylate salt (diuretin) and as its sodium acetate salt (agurin). The 1.7. dimethyl xanthin or paraxanthin has been shown to possess marked diuretic properties upon animals (10) though apparently it is less effective on man (11). The last, or 1.3. dimethyl xanthin, is theophyllin, in which we are particularly interested today. It is sold under the trade

name of theocin and is used either as the pure drug or as its sodium acetate salt.

The diuretic action of theophyllin can be shown even on the normal man (12). Therapeutically, it is used to remove fluid from the body, such as edemas, exudates, and transudates. The most favorable cases for its use are undoubtedly the cardiac dropsies. I have used theophyllin in the treatment of three patients with edema due to mitral diseases, and in all the results were most satisfactory.

As an example of the exceedingly good effects obtained in some cases, I may recite the history of a patient whom I have seen recently in consultation with Dr. Wm. Flint of Santa Barbara. A woman about 45 years old had been troubled for some years with shortness of breath and had been told some time ago that she had heart disease but that her urine was normal. For several weeks past she has been gradually getting worse and at the present time she is unable to sleep on account of dyspnoæ. Her legs have become extremely swollen, her face is puffy. There is considerable fluid in her left chest and in her abdominal cavity. The heart shows the typical signs of mitral insufficiency. Its action is extremely irregular, about 120 to the minute. Venous tracings show a positive venous pulse, probably due to a tricuspid insufficiency, though we could not exclude the possibility of an atrio-ventricular incooperation of the cardiac rhythm (13). Liver enlarged and tender but not distinctly pulsating. Urine 10 to 20 oz. a day and contains $1\frac{1}{2}$ gm. of albumin to the liter and no casts. The diagnosis was made of a primary valvular mitral insufficiency with secondary passive congestion of the kidney. Patient was given a three days' course of the well-known pills of digitalis, squills, and calomel. This increased her urine to about 32 oz. per day. On the fourth day she was given 5 grains of theocin sodium acetate after breakfast and the dose was repeated after lunch. On this day she passed 85 oz. of urine. A second course of digitalis held her urine at about 40 oz. per day. The second day of theophyllin caused her urine to rise to 155 oz., or nearly five quarts, in twenty-four hours. By this time the edema, the hydrothorax, and the hydroperitoneum had completely disappeared. The pulse was considerably slower and more regular, and the patient's serious symptoms were gone. Subsequent courses of digitalis followed by the theophyllin increased the urine moderately, but nothing like what had been done on these two occasions.

Another patient who had mitral insufficiency and stenosis with badly broken compensation and with general edema, was given the infusion of digitalis for a time, with marked benefit. Gradually, however, the edema and hydrothorax reappeared. He was then given fifteen grains of theophyllin during the course of a day, with the result that he passed five quarts of urine in 24 hours. During the night following he was very nervous, restless, and at times delirious.

On three occasions I have used theophyllin on patients with myocardial disease and edema. In all the drug produced a marked effect. The most pro-

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

nounced results were obtained in a patient seen at the medical clinic of the Cooper Medical College on August 8th, 1906. He was 64 years old, alcoholic, suffering from dyspnoea and from the cough and sputum of chronic passive congestion of the lungs. He was slightly cyanosed and slightly jaundiced; marked edema of the legs. His heart was very much enlarged downwards and to the left and on auscultation a systolic murmur was heard at the apex and the second pulmonic sound was markedly accentuated. Pulse extremely irregular, many beats of the heart not reaching the wrist. Jugular veins swollen and showing on tracings a positive venous pulse. Liver at the level of the umbilicus. Urine much diminished but shows neither albumin nor casts. Four days' use of the infusion of digitalis raised the quantity of urine to an average of two quarts a day. On the fifth day he took 15 grains of theophyllin and within 24 hours he passed seven quarts of urine. He was unable to sleep during the night because he passed urine so frequently. In the morning he appeared at the clinic, a shadow of his former self. The edema had completely disappeared; and although he was kept under observation for several months it did not return in any amount. His pulse did not become regular. The systolic murmur at the apex subsequently disappeared and the patient's main complaint then became pain in the region of the heart. I believe that he was suffering from myocardial disease dependent upon coronary sclerosis.

For over two years I have had under my care a patient with cardiac insufficiency, apparently due to pericardial adhesions. He has had pleuritic exudates on both sides for which he has been tapped between fifteen and twenty times. The large amount of albumin in these exudates and the almost exclusive presence of lymphocytes makes it probable that these exudates are of a chronic inflammatory character. More recently this patient has been tapped for ascites, possibly due to his well marked cardiac cirrhosis. During the two years that this patient has been under my care, he has taken theophyllin on the average of once a week. Until the ascites became marked its use was always followed by an increased elimination of urine, the amount frequently rising from 20 to 60 oz. for the day. He objects to the drug because it often causes nausea and makes him feel very nervous.

I have come to regard theophyllin as an extremely active and almost certain diuretic in cardiac dropsy. It has also been recommended for nephritic edemas though here its action is generally regarded as less certain (8, 14). My own experience in employing it for these dropsies has not been encouraging. I have used it or seen it used in at least seven patients, and in none was sufficient diuresis produced to warrant its continued use. Although I have never had an opportunity to use theophyllin for the edema of acute nephritis, nevertheless a few remarkable successes in the literature (4, 9) would justify one in trying it in such conditions.

Edemas due to anemia, malignant disease, etc.,

are in some instances very favorably influenced by the administration of theophyllin. Thus in a patient under my care recently with a malignant tumor in the region of the left kidney, with edema of the legs and face, fluid in the peritoneal cavity and a hemorrhagic exudate in the left pleura, the amount of urine averaged 22 ounces per day before the administration of theophyllin, whereas during the daily administration of 15 grains of the sodium acetate salt the quantities passed per day were 71, 88, 77 and 50 ounces. During these four days the edema and the peritoneal exudate disappeared, but the hemorrhagic pleuritic exudate did not seem to be markedly influenced.

Pleural and peritoneal effusions due to local causes are not particularly favorable for the use of theophyllin. A few authors (6) have obtained good results in cases of tuberculous pleuritis, the exudate rapidly disappearing; but in general the diuresis does not suffice to remove the exudate. I have used it in two patients with tuberculous pleurisy, in one of whom there was an associated pericardial exudate. Although the urine was moderately increased in each, tapping had to be resorted to finally. When we desire to treat such a patient by dry dieting, restriction of chlorides, saline purgatives, etc., with the object of reducing the water in the body, the administration of theophyllin would seem to be rational, for in this way the elimination through the kidneys may be kept at a higher level. The ascites of hepatic cirrhosis is rarely influenced by theophyllin. I have seen one patient, however, where it seemed quite certain that the theophyllin assisted to dispose of an ascites of this character. After its use no further tapplings of the abdomen were necessary.

How does theophyllin produce diuresis? Like other members of the caffein group of diuretics its action can not be accounted for by any improvement in the general circulation. It does not affect the blood pressure to any marked degree either in animals or in man (5, 8). I have determined the systolic and diastolic blood pressures in a patient both before and during a marked theophyllin diuresis without being able to detect any change. It seems certain that these diuretics act in some manner on the kidney itself. It has been shown experimentally that during their action the kidneys increase very decidedly in volume and that more blood passes through them (15).

Caffein actively dilates the renal vessels by its direct action on their walls (15). The increased rate of flow through the kidney causes an increased excretion of urine. Whether this is the sole cause of the theophyllin diuresis or whether there is in addition a direct stimulation of the secreting cells has not yet been definitely decided. There is evidence that the resorption of edema and exudates under the influence of theophyllin is dependent not only upon its renal action, but upon an active resorption of fluid from the periphery. Thus if theophyllin be injected into rabbits with tied ureters a dilution of the blood takes place, its organic constituents becoming diminished and its salts increased (16).

This has been held to indicate an active resorption of fluid from the tissues through the walls of the capillaries.

Owing to the fact that theophyllin does not affect the circulation to any great extent, it is frequently combined with digitalis, especially when the edema is caused by a cardiac insufficiency. The digitalis is best given for three or four days in order to improve the general circulation, and immediately afterward the theophyllin is given. Sometimes the latter alone is almost without action, whereas if preceded by digitalis marked diuresis is obtained (8).

The fact that theophyllin acts locally on the kidneys and that it is believed by many to stimulate the renal cells to increased activity has given rise to the suspicion that it may do injury by over-irritation of the kidneys. The few reported cases that admit of such a possible interpretation (2) are not at all convincing, however; and, on the other hand, nearly every writer on this subject has expressed his conviction that theophyllin can be used with impunity in nephritis, and that while it may not do good, at least it never does harm. I have already related the history of a patient whose urine showed one-half gram per liter of albumin as a consequence of chronic passive congestion. Following the use of digitalis and theophyllin the albumin almost disappeared. I am able to cite another similar case which occurred in the service of Dr. J. O. Hirschfelder. A man with cardiac insufficiency due to muscular disease showed $\frac{1}{2}$ gram of albumin to the liter and hyaline casts before treatment. Under the use of theophyllin he passed large quantities of urine, his edema vanished and the albumin and casts disappeared from his urine. It seems to me that such cases as these, together with its successful use in acute nephritis make it improbable that theophyllin damages the kidneys. When we consider that this drug accelerates the renal circulation, it seems quite as probable that it may do good rather than harm.

The diuretic action of the various members of the caffeine group have been compared on animals by Ach (10). The following figures represent the amount of urine passed as compared with the normal:—caffeine, 2.7; diuretin, 3.8; paraxanthin, 7.8; theophyllin, 6.3; xanthin, 1.7, etc. Clinical experience has abundantly shown that in man also theophyllin is a more active diuretic than is caffeine or the theobromin compounds, diuretin and agurin. Various authors (3,12) have alternated these different diuretics on the same patient and almost invariably it has been found that theophyllin produced a greater diuresis than any of the others. Its action begins more promptly, within a few hours, and its effects do not last so long. However, the notorious uncertainty of diuretics appears at times, and theophyllin is in some cases surpassed by other drugs of this group. Paraxanthin, which promised so much from Ach's observations on animals, has recently been placed on the market as a dimethylamino compound under the trade name of paraxin, but its efficacy so far as man is concerned does not seem to equal that of theophyllin (11).

Objection has been made to theophyllin on the

ground that it soon loses its efficacy. This seemed to be the case in several of my patients. The marked diuresis obtained during the early use of the drug was followed by less and less effect, until finally it had almost no action whatever. Schmiederberg (17), who believes that it does not lose its effect, attributes the lessened diuresis to the lessened quantity of water in the body; but it seems to me that this is not the only explanation. Loewi has shown that a similar tolerance for caffeine may develop in animals and that this is associated with a lessening of the dilatation of the renal vessels after repeated doses of the drug (15). Since theophyllin tends in time to lose its effect, it is unwise to continue its administration too long. After giving it for one to three days a rest of several days should follow.

Unfortunately theophyllin sometimes produces discomforting and even alarming symptoms. Of these the most common are gastric distress, nausea and vomiting. Diarrhoea is less frequent. In order to avoid these gastric symptoms it is best to give the less irritating sodium acetate salt and to dissolve in a large quantity of water. More serious than the gastro-intestinal are the nervous symptoms which sometimes follow the use of theophyllin. An increased nervousness, such as is seen after drinking too much coffee, is not uncommon, and this may go on to delirium, as happened in one of my patients, and in some cases it even goes on to convulsions. Schlesinger (14) was able to collect fifteen cases from the literature and from his personal experience where convulsions followed the use of theophyllin; and although in some of these the etiological relation was not certain (18), there can be little doubt that convulsions sometimes follow its use. For this reason care should be exercised in giving theophyllin to uremic patients, as well as in giving it to those who respond to its use with excessive nervousness. Nervous symptoms of a mild character may be controlled by the use of such hypnotics as chloral or paraldehyde. Some of the more recent writers on this subject, warned by the occurrence of convulsions, have adopted much smaller doses than are usually prescribed. Instead of five grains three times a day they give only one-third grain (9). The immediate diuresis resulting from this small dose is not so pronounced, but the drug continues to be efficient over a longer period of time, so that in the end the result is much the same.

In conclusion, I may say that we have in theophyllin a drug which possesses remarkable diuretic properties, and one which should be tried early in the often fruitless search for an effective diuretic. The fact that it acts within forty-eight hours at the most allows us to decide early whether we shall continue its use or not. In this respect it is superior to diuretin; for a number of days are necessary to decide the value of that drug. I have come to regard theophyllin as an almost certain diuretic for edemas of cardiac origin, and in such patients I always precede its use by three or four days of digitalis. For edemas of other origin, theophyllin, though often a failure, is always deserving of trial. Should it fail to act, other drugs of this same group, such as

diuretin, agurin and paraxanthin, may be tried; for unfortunately we can not reason that because one has failed another will do the same. Perhaps no part of therapeutics is more full of surprises than is this of the practical use of diuretics. In theophyllin, however, we possess one of the most reliable drugs of this field.

LITERATURE.

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Discussion.

Dr. J. B. Frankenheimer, San Francisco: I have tried this drug in several cases at the suggestion of Dr. Hewlett, and have found it very successful. We have had astonishing results with it.

Dr. R. L. Porter, San Francisco: I have not had any personal experience with it, but have seen it used by Dr. Shiels, of San Francisco. He says in giving theophyllin it is always necessary to give a mercurial compound. There is a question of diuretics in acute nephritis. The use of caffeine has been tried and the use of diuretin, and both abandoned because by the use of a hot pack properly given and endoclysis, such good results have followed.

Dr. E. W. Twitchell, Sacramento: It seems to me that we have heard too little about the reverse side of this question. I have tried this drug on a number of my patients. There is no question about the diuretic effects, but the extreme effects were such that I abandoned its use. The patients almost invariably complain of severe nausea and vomiting. I have tried to overcome it, and have tested my patients by administering it in one form or another, but it almost always produced persistent nausea and it became necessary to abandon it.

Dr. L. J. Belknap, San Jose: I have never had any particular experience with this particular drug, but have had to do with a good many cases of cardiac dropsy, and as a rule I have met with good success by the use of the packs, and especially the electric light bath with friction salt to keep the skin active and if possible to do something in a curative way, rather than something only to remove the symptom. I have cleared up the trouble in this way, and it has remained so. I find it to advantage to

keep these patients in bed, on milk diet, especially buttermilk, and by use of such treatments and keeping up the tonic treatments, I have had good success. I think we are liable to give treatments of a depressive nature of too great severity and too long continued.

Dr. W. W. Kerr, San Francisco: I think it is hardly fair to mix up the subject of this paper with that of dropsy in general. I do not think Dr. Hewlett said anything about dropsy in general. He spoke merely of one drug and of those drugs of the group. Certain cases of dropsy are suitable to the bath treatments and certain others to other different treatments. The only trouble I have had with this drug has been the intense nervous excitement produced in some patients. Some patients can take but comparatively small doses. The same thing is noticed in caffeine. I have seen one grain of caffeine set a patient up for the whole day. I remember giving three grains to another patient with but slight excitement. There is one point about which I wish we knew something more, and that is the relation between the drug as it is given in the hypodermic form (there are a good many experiments being done on animals), and when given by the stomach and the different sorts used. For years I have noticed that the caffeine would produce a good deal of trouble in the stomach. On the other hand, hypodermically, that was not produced. Whether it is the proportion given by the stomach which undergoes certain changes when given in the form of citrate, or whether it is the alkaloid that is affected, I do not know. In some cases the citrate of caffeine increased the albuminuria, while hypodermically it did not have that effect.

Dr. W. E. Bates, Davisville: I have used this extensively and have now a patient with mitral insufficiency who is taking six doses a day of the theocin acetate. I would like to ask what mixture Dr. Hewlett uses in the liquid form.

Dr. Hewlett, closing discussion: The main remarks that have been made seem to be about the disagreeable features. A drug able to produce such marked effects is worthy of trial, and it is worth our while to get rid of the accessory symptoms. I think I covered the points in my paper more or less in regard to the gastric disturbances. Some patients can not take it. The gastric distress also is less if given in a solution rather than in powder form. It dissolves very readily and can be given with some form of peppermint in water. If a patient becomes delirious, then more must not be given of the drug. The drug can be given in much smaller doses. The most serious objection is that some patients have convulsions and some authors think the patients die in these convulsions, but I went over the history of such a case, and do not think the drug was the cause of the convulsions. If you wish to be cautious you should administer smaller doses, 1 to 3 grains t. i. d., or combine it with chloral, a drug which controls the central nervous system.

GROCCO'S SIGN.*

By JULE B. FRANKENHEIMER, M. D., San Francisco.

Notwithstanding the efforts of the best observers of clinical phenomena in the past, it has fallen to the lot of Grocco of Florence to note and describe a new and very valuable physical sign of pleural effusion. It is rather astonishing that such an obvious sign should have been overlooked so long, and, aside from its worth, it shows that there is still room for discovery by the pure clinician, and fur-

*Read at the Thirty-seventh annual meeting of the State Society, Del Monte, April, 1907.

nishes a stimulus for further effort in clinical observation.

We quote the brief description of "Grocco's triangle" in his own words from the excellent paper of Thayer and Fayban (1).

"Paravertebral tangle of the side opposite that of the pleural effusion. When, with a pleural effusion of sufficient size, one percusses from above downward, along the spinous processes of the vertebrae, with the patient in the sitting posture, there appears at the level of the fluid a dullness which, relative at first, becomes absolute as one passes downward, in association with a progressively increasing sense of resistance. In like manner, by percussing downward on the healthy side, along lines parallel to the spinous processes, there is noted, opposite the dullness in the median line, a paravertebral area of deficient resonance, of triangular shape. One side of this dull area is represented by the line of the spinous process; another, by the lower border of the area of thoracic resonance for a short distance which varies in length from two to three or more centimeters; the outer side is represented by a line which, starting from the base, rises obliquely to unite at an acute angle with the median line at about the upper limit of dullness. In a right-sided effusion, other things being equal, the paravertebral triangle has seemed to me more marked. Although symptomatology abounds in methods for differential diagnosis between pleural effusion and pulmonary infiltration, there can be no doubt that the sign which I have mentioned may be of value in some cases, especially in right-sided and encapsulated exudates. I shall return to this subject later with a detailed description which may illustrate that which, if I be not mistaken, is a diagnostic sign of pleural effusions hitherto undescribed and worthy of consideration."

Though Grocco's publication in March, 1902, was the first on the subject, there are at least two observers—Koranyi (2) and Rauchfuss (3) who were at that time acquainted with the sign. The latter claims cognizance of the phenomenon, which he obtained in children, for twenty years. With very few exceptions, clinicians have agreed that the sign is practically constant, and of diagnostic value.

Baduel and Siciliano, in a series of experiments on the cadaver, have reproduced, as nearly as possible, the conditions obtaining during the life of a patient with pleural effusion. They found that the "paravertebral triangle" was caused by a displacement of the contents of the mediastinum, the aorta, azygos vein, esophagus and the heart, to the side opposite to that containing the fluid. They explain the phenomenon, *i. e.*, the paravertebral triangle of dullness, by assuming that in every case of pleural effusion, where enough fluid is present, this displacement, due to increased intrathoracic pressure, occurs. Also, that the normal resonant note obtained by percussing the vertebrae is dulled by the fluid which occupies the place of a portion of one lung, and also extends in front of the bodies of the vertebrae, thus inhibiting their vibratory capabilities.

We see, then, that there are two factors to consider; first, the deadening influence of the fluid on the vibrations of the vertebrae; second, the displacement of the mediastinal structures with some slight compression of the lung on the unaffected side, which can be nicely demonstrated by the X-ray.

The method of obtaining the triangle is simple and hardly needs description; the examination, however, should not end with the outlining of the triangle, but should also consist in the usual measures of palpation and auscultation. On palpation the vocal fremitus is found diminished or absent, and, at times, this is so marked that the triangle may be outlined by this method alone. The auscultatory findings are, diminished breath sounds heard over the triangle, while occasionally, just outside the lower part of the hypothenuse a few fine moist rales, due to compression of the lung, may be heard, as was noted by Plessi. Over the triangles due to larger effusions, egophany and the coin sound may be present and distinct.

Change of position of the patient with consequent disappearance and reappearance of the triangle, is of considerable importance. It appears to us that collections of pus in the pleura should cause a larger triangle than serous effusions, other things being equal; we have had too few cases, however, to draw any definite conclusions on this point.

To become acquainted with the sign and test its value, many cases of pleural effusion, and hydrothorax were examined, but on reviewing the histories only twenty-six cases are found. As experience was gained, not only were the dimensions of the triangle investigated, but also the amount of the vocal fremitus over it, the quality of the breath sounds, the character of the voice sounds, and the behavior of the triangle on change of position. Exploratory puncture was practiced in every case. There can be no doubt that in a vast majority of the cases the paravertebral triangle of Grocco is present; in fact, it is so constant that detailed histories of the patients would be wearisome, hence, short notes of the triangle only will be given. As control cases we have had several cases of pneumonia, one of abscess of the lung, and one of gangrene of the lung, in all of which Grocco's sign was absent. Of particular interest was a case of encapsulated empyema on the left side. There was an area of flatness from the fifth rib to the base, and from the mid axillary line almost to the spinal column; the intervening strip being somewhat dull. There was no paravertebral triangle present; puncture yielded a small amount of thick pus.

Case I.—P. C. Diagnosis: Bronchitis, pleurisy with effusion. Right side of chest moves more than left. Dullness of left side posteriorly from seventh dorsal down. Vocal fremitus absent over this area. No friction. On the right side there is a triangular area of dullness the apex of which is at the eighth dorsal, the base extending 3 cm. to the right of the spine. Exploratory puncture in seventh interspace (left) gives clear fluid.

Case II.—W. S. Diagnosis: Pneumonia (?), empyema. Dullness on right side from fifth dorsal down. Vocal fremitus much diminished over dull

area. Bronchial breathing present, though distant. On the left side there is a triangular area of dullness commencing at the lower sixth dorsal extending downward and outward till at the base it has a breadth of 7 cm. Aspiration yielded 1250 cc. of greenish pus. Operation.

Case III.—J. T. Diagnosis: Pleurisy with effusion. Tuberculous involvement of upper lobes. On the right side there is dullness from the ninth dorsal down. A triangular area of dullness on the left side is found commencing at the tenth dorsal, the width at the base being 3 cm. A needle was introduced into right back and fluid obtained. Autopsy showed fluid on both sides, more on right.

Case IV.—W. W. Diagnosis: Bronchitis. Pleurisy with effusion. Dullness on left side begins at the seventh dorsal and continues to base. On the right side the triangle begins at the eighth dorsal and has a base of $3\frac{1}{2}$ cm. Vocal fremitus in the triangle is diminished but not entirely absent. Exploratory puncture in left scapular line yields fluid.

Case V.—G. S. Diagnosis: Acute dilatation of right heart, general edema, pleural transudate, chronic passive congestion of kidneys. Dullness of right side from fifth dorsal down. Vocal fremitus diminished over this area. On the left side paravertebral triangle commences at lower sixth dorsal and has a base of $3\frac{1}{2}$ cm. Breath sounds over dull area hardly perceptible. Vocal fremitus diminished. A needle introduced into right back and fluid obtained.

Case VI.—H. H. Diagnosis: Pleurisy with effusion. Dullness of left side from seventh dorsal down. Apex of paravertebral triangle on right side is at the eighth dorsal while its base extends 4 cm. from the mid-line. Vocal fremitus over triangle slightly decreased. When patient lies on affected side the triangle disappears in one minute. Vocal fremitus in this position does not entirely return; 800 cc. aspirated from left back.

Case VII.—J. S. Diagnosis: Pleurisy with effusion. Dullness of right back from fourth, flatness from sixth dorsal down. Vocal fremitus diminished over dull area, absent over flat. Paravertebral triangle commences at sixth dorsal and has a base of 4 cm. Vocal fremitus and breath sounds diminished over this area. The triangle disappears after the lapse of two or three minutes when patient lies on affected side. Fluid obtained by puncture.

Case VIII.—D. F. Diagnosis: Pleurisy with effusion. Dullness of right back at fourth dorsal, flatness at lower fifth. Paravertebral triangle commences at the sixth dorsal and has a base of $6\frac{1}{2}$ cm. Vocal and breath sounds diminished over this area. Triangular dullness disappears when patient lies on affected side; 500 cc. removed from right pleura.

Case IX.—G. C. Diagnosis: Pneumonia of right lower lobe with pleuritic effusion. Dullness of right side from fifth dorsal down. Over this area vocal fremitus diminished and absent. Bronchial breathing. Paravertebral triangle on the left side commencing at the sixth dorsal; the base is 6 cm. Over this area vocal fremitus and breath sounds slightly diminished. When patient lies on affected side, triangle disappears. The needle yields a rather purulent fluid.

Case X.—M. C. Diagnosis: Pleurisy with effusion. Dullness of right side from ninth dorsal down. Over this area vocal fremitus diminished and breath sounds distant. Pleuritic friction heard in right lower anterior chest. On the left side there is a paravertebral triangle the apex of which it at the tenth dorsal, the base being 3 cm. Dullness rapidly diminishes when patient lies on affected side. Fremitus not diminished over triangle. Exploratory puncture right side yields a few drops of pus.

Case XI.—L. W. Diagnosis: Disseminated tuber-

culosis; pleurisy with effusion. Dullness on the left side from the eighth dorsal down. Semi-lunar space of Traube dull. Vocal fremitus decreased and absent over this area. Paravertebral triangle found on right side commencing at ninth dorsal; the base measures 4 cm. Vocal fremitus somewhat diminished. Breath sounds not so distant over this area. Puncture yields fluid. Tubercle bacilli found in sputum.

Case XII.—O. T. Diagnosis: Pneumonia; pleural effusion. Dullness on right side commencing at sixth dorsal and extends downward. Vocal fremitus diminished over dull area but not entirely absent. Paravertebral triangle; apex at the seventh dorsal left, base $4\frac{1}{2}$ cm. Vocal fremitus somewhat diminished over triangle, also breath sounds. Change of position causes triangle to disappear. Exploratory puncture yields syringe full of blood-stained fluid.

Case XIII.—J. G. Diagnosis: Pleurisy with effusion. Dullness on the right side from the fifth dorsal down. Flatness commences at seventh dorsal. Paravertebral triangle on left side. Apex at the upper seventh dorsal. Vertical measurement 14 cm., base $4\frac{1}{2}$ cm. Vocal fremitus much decreased over this area. The lower portion of which can be delimited by palpation alone. Nasal voice sounds heard over the triangle. When patient lies on affected side triangle disappears. Removal of 350 cc. fluid causes apex of triangle to descend 3.5 cm.

Case XIV.—C. Y. Diagnosis: Cardio-nephritic hydrothorax. Dullness on both sides from seventh dorsal down. Vocal fremitus practically absent over these areas. Needle introduced as low as possible on left side. Tenth interspace, and 850 cc. of fluid removed. Immediate examination shows a Grocco on left side, the apex of the triangle being at the eighth dorsal, the base measuring $4\frac{1}{2}$ cm., the height being 11 cm. The vocal fremitus over this area is nearly absent and the breath sounds distant; outside and sharply limited by the hypotheneuse of the triangle there is a marked vocal fremitus. Dullness over the triangle disappears when patient lies on right side.

Case XV.—J. B. Diagnosis: Cardiac hydrothorax. Dullness from sixth dorsal down on right side. Vocal fremitus over this area almost absent. Over the left side, paravertebral triangle is present with its apex at the seventh dorsal, its base measures 7 cm., height 14 cm. Breath sounds over right side very distant, on left side, well marked. Over the triangle breath sounds diminished, as is also vocal fremitus. When patient lies on right side triangle area of dullness clears to quite an extent. Needle yields fluid.

Case XVI.—C. C. Diagnosis: Cardiac hydrothorax. Dullness on left side from seventh dorsal down, on right from lower eighth. Over dull areas vocal fremitus is absent and breath sounds distant. A small Grocco on the right side whose apex is just below the level of dullness on the left side, its base (2 cm.) is formed by the upper limit of dullness on the right side. As fluid is removed the triangle becomes more distinct and larger. After 1350 cc. of fluid have been removed from tenth interspace right we find the base to be 3 cm.

Examination on the day following shows: Dullness on the left side from upper eighth dorsal downward. Vocal fremitus over this area greatly diminished. Triangle on the right side has its apex at the lower eighth dorsal; the base measures 4 cm. the height 11 cm. Vocal fremitus and breath sounds diminished over this area. The voice sounds are the same as those over the effusion (slight egophany). After about three minutes with patient on left side, the triangle area clears but does not disappear completely.

Case XVII.—Wm. C. Diagnosis: Cardia-nephri-

tic hydrothorax. Dullness on right side from lower fifth dorsal down, on left from ninth dorsal down. Vocal fremitus diminished over dull area, especially left base. Breath sounds quite distinct and tubular with moist rales over right side; distant over left base. The apex of the Grocco triangle is at the sixth dorsal; the base at the level of dullness at the ninth dorsal is 4 cm. The hypotheneuse of the triangle continued downward forms a quadrilateral of which the dullness at the ninth dorsal forms the top, the base the bottom; the sides being formed by the spinal column and a segment of the hypotheneuse. Over the triangle proper vocal fremitus and breath sounds are diminished; in the quadrilateral above described, they are quite distant. Egophany is present. The triangle does not disappear when patient lies on right side. Fluid obtained by needle.

Case XVIII.—W. H. Diagnosis: Pneumonia, pleurisy with effusion. Patient entered hospital with involvement of left upper lobe, the left lower then became affected and later the right middle and lower. As the disease progressed the tissues earliest affected cleared up. At the time of the effusion the left lower lung was quite resonant. Dullness on right side at fifth dorsal, flatness at seventh dorsal. Apex of triangle is at seventh dorsal; the base measures 4 cm. Vocal fremitus is diminished over this area. The triangle disappears when patient lies on right side; 30 cc. greenish turbid fluid removed, examination of which shows 7200 white cells to the cmm., of which 95% were polynuclears, 3% large mononuclears and 2% lymphocytes.

Case XIX.—C. M. Diagnosis: Mitral insufficiency. Hydrothorax. Dullness on the right side from the eighth dorsal down, on the left from the tenth dorsal down. Vocal fremitus and breath sounds not diminished over upper portion of dullness, but from the tenth dorsal both sides it is almost absent. The apex of the paravertebral triangle is at the lower eighth, the base measures 2.5 cm. at the level of fluid tenth dorsal on the left side. Neither vocal fremitus or breath sounds diminished the triangle, which does not clear up when the patient lies on his right side; in fact the dullness increases, probably due to fluid on the left side. Puncture in the eighth interspace, scapular line, yields a clear fluid.

Case XX.—C. J. Diagnosis: Pleurisy with effusion. Dullness on the right side from lower fifth dorsal downward. Over this area vocal fremitus absent, breath sounds distant. On the left side the paravertebral triangle is at the seventh dorsal; the base measures 6½ cm. Vocal fremitus and breath sounds diminished over this area. When patient lies on right side the triangle becomes very much smaller but does not entirely disappear. Puncture yields clear fluid.

Case XXI.—F. G. Diagnosis: Empyema. Dullness on the left side from seventh dorsal down. Vocal fremitus diminished, distant bronchial breathing. The apex of the paravertebral triangle is at the eighth dorsal on the right; the base measures 3 cm. Vocal fremitus and breath sounds diminished over this area. Puncture yields 10 cc. thick greenish pus. Operation; recovery.

Case XXII.—T. S. Diagnosis. Pleurisy with effusion. Dullness of right side from eighth dorsal down. Apex of paravertebral triangle on the left side is at lower eighth dorsal, the base measures 5 cm. Vocal fremitus diminished over triangle.

Case XXIII.—J. R. Diagnosis. Cardiac hydrothorax. Dullness of right back from lower sixth dorsal down. Vocal fremitus present. Breath sounds slightly diminished. Paravertebral triangle present on left side; the apex is at the seventh dorsal, the base at the tenth dorsal measures 4 cm. Small amount of fluid on the left. Triangle does not

disappear when patient lies on right side. Puncture yields slightly cloudy fluid, 1300 cells per cmm.

Case XXIV.—J. S. Diagnosis: Pleurisy with effusion. Dullness on the right side from the lower sixth dorsal down. Vocal fremitus absent. Breath sounds distant over this area. Paravertebral triangle on the left side has its apex at the seventh dorsal vertebra; its base measures 5 cm. Over the triangular area vocal fremitus is diminished and breath sounds distant. Egophany present. Triangle disappears when patient lies on right side. Clear fluid obtained on exploratory puncture.

Case XXV.—R. W. Diagnosis: Pneumonia; pleurisy with effusion. Dullness on the right side from fifth dorsal down. Paravertebral triangle has its apex at the sixth dorsal; its base measures 5 cm. This area disappears when patient lies on affected side. Puncture yields clear fluid.

Case XXVI.—P. V. Diagnosis: Tuberculosis pulmonary; pleurisy with effusion. On left side dullness from eighth dorsal down. Apex of paravertebral triangle at the ninth on the left side; its base measures 3½ cm. Vocal fremitus diminished. Breath sounds distant over this area. Triangle disappears when patient lies on left side. Needle introduced into left interspace yields fluid.

Of particular interest are cases XIV, XVI and XVII. In case XIV, a double hydrothorax with dullness at the same level on both sides, the fluid was withdrawn from the lowest possible point, 10th interspace on the left side. Immediately afterward the paravertebral triangle was in evidence. In case XVI, also a double hydrothorax, the fluid was at different levels; from the 7th dorsal on the left side and from the lower 8th dorsal on the right. A small Grocco was present on the right side, the apex being just below the limit of dullness on the left. As the fluid was withdrawn from the right side, the triangle became more distinct, the apex remaining at the point determined before removal of the fluid. Case XVII was also a double hydrothorax. The fluid on the right side reached the 6th dorsal; on the left the 9th dorsal. A well marked paravertebral triangle could be outlined on the left with its base at the level of the fluid, 9th dorsal. Below this, a quadrilateral area, of absolute flatness, could be delimited. Its upper border was the level of the fluid, its lower, the base, the inner, the vertebral column and the outer a segment of the extended hypotheneuse of the triangle. Over this area vocal fremitus and breath are hardly appreciable, while egophany is present.

Conclusions:

1. Grocco's triangle was present in every one of our series of twenty-six cases of fluid in the pleura and absent in every control case.
2. The apex of the triangle is below the line of dullness and usually at, or slightly above, the line of flatness.
3. The base of the triangle may vary from two to eight centimeters; in this series, the extremes were three and seven centimeters.
4. Slight convexity of the hypotheneuse of the triangle which usually occurs above its middle, was noted in several cases; it is apparently found more frequently in the larger effusions. (We think this is due more to the displacement of the mediastinal

structures than to the deadening influence of fluid on the vertebral vibrations.)

5. Fluid in the right pleura causes a larger triangle than in the left—other things being equal.

6. The size of the triangle varies as the amount of fluid. This is shown by the daily variations in the height of the dullness, or by the removal of a portion of the fluid.

7. Only small quantities of fluid are necessary to cause the triangle when the lower lobe of the lung is consolidated.

8. Vocal fremitus is diminished or absent, and breath sounds distant over the triangular area. These signs in themselves will sometimes enable one to delimit the triangle.

9. Egophany when sought for, was heard over the triangle with more or less intensity in nearly all the cases of larger effusions, the larger the effusion the more intense the egophany. Unfortunately, the coin test was not made.

10. The disappearance of the triangle when the patient lies on the affected side, occurred in almost every case examined for this particular sign. The time of disappearance varies as the amount of fluid present; the smaller the amount, the quicker the resonant note returns.

11. The non-disappearance of a well marked triangle when the patient lies on the affected side, is due, either to an immense amount of fluid, or, the effusion may be encapsulated, or there is a small amount of fluid present on the apparently unaffected side which collects in the pleura next the vertebral column.

12. The triangle is of greater value in diagnosis when vocal fremitus is present on the affected side.

Since the above paper was read before the State Medical Society, ten more cases have been examined. The paravertebral triangle was found in all, and was of distinct diagnostic advantage in some of the cases.

(1) *Am. Jour. Med. Soc.*, Jan., 1907. Complete bibliography up to date.

(2) Koranyi: Über den Perkussionschall der Wirbelsäule und dessen diagnostische Verwertung. Nebst einer Berichtigung bezüglich des pleuritischen (paravertebralen) Dreiecks. *Zeitschrift für Klin. Med.* Vol. 60.

(3) Rauchfuss: Ueber die paravertebrale Dämpfung auf der gesunden Brustseite bei Pleuraergüssen. *Deutsches Arch. Klin. Med.* Vol. 89.

Discussion.

Dr. W. W. Kerr, San Francisco: There is one point which I have noticed and which is of considerable diagnostic value, and that is the disappearance while the patient lies on the affected side. It is frequent that we have old cases of pleurisy with thickened pleura where the effusion has been partially removed and the balance left for absorption. You know that there is still some fluid, but as the patient is changed from side to side and you find the persistence or the disappearance of the triangle, it keeps you posted on the fluid, whether it is diminishing or increasing, because the high line will often be persisting on account of the thickened pleura and you might not be sure whether the

effusion was increasing or not. If the triangle persists and we find the dullness changed, then you know there is still an amount of fluid in the chest. On that account it is one of the best methods we have for differential diagnosis.

Dr. W. Voorsanger, San Francisco: I have not had very much experience with this sign, but I think we should all be very much interested. No doubt it has a good deal of value, but I think we should accept it as definite with some hesitancy. Personally, if I were in doubt about an effusion I would not care to rely upon this sign. I would prefer puncture. I would like to hear just how far satisfied the doctor is as to the diagnostic value. Of course my experience has been limited.

Dr. A. W. Hewlett, San Francisco: I think this sign can be elicited in most cases of pleural effusion without much difficulty. I think every sign we have adds one more fact toward making us certain as to the diagnosis. For that reason, if for no other, it is valuable. I think it is of a good deal of value. In some cases of consolidation, it has happened that it is difficult to distinguish a pneumonia from an effusion in the pleural cavity and then it is of value. If you find the dullness extending over to the opposite side with the disappearance, it makes us think of effusion. Of course the needle is the last resort in all cases.

Dr. R. L. Porter, San Francisco: I wish to call attention to the fact that literature contains a greater number of cases of the sclerotic pneumonias of children in which puncture has been tried fluid found and the child died subsequently. There is no question whatever that in comparing this triangle we are enabled very materially to determine whether there is an effusion or not. There is one condition in which you may be misled, in the so-called creeping pneumonias, if there is one densely consolidated lung and the edge of the other coming across it is impossible to differentiate.

Dr. F. M. Pottenger, Los Angeles: I have had no personal experience with this sign. But there is one thing to which I would like to call attention which I met just yesterday. I was examining a case very carefully where the left lung was markedly contracted and the right lung hypertrophied and I found this dullness. We know that very often the lung is pushed beyond the median line. In this case I found dullness beyond the median line. Between pneumonia and a case of effusion, we can diagnose by the auscultory method and make out the limitations and differentiate the liver dullness from the effusion.

Dr. J. B. Frankenheimer, closing discussion: It was in 1902 that Grocco first published his description of the triangle, though others have since claimed acquaintance with the triangle for 20 years. For the cause of the triangle, the two most important factors are the fluid in the chest dulling the vibrations of the vertebrae which act as pleximeters, and the pushing over of the mediastinal structures. It is rather difficult to explain without drawing. Referring to the cases of which Dr. Voorsanger spoke, I will say that in every one of the thirty reported, after diagnosing the fluid, we introduced the needle and obtained the fluid in every case but one, and in that case autopsy showed plenty of fluid there. We treat clinic cases in a more scientific manner than cases in private practice and so we resort to the needle which is quicker in hospital work than in private. Nevertheless, if we could diagnose as quickly with the triangle as with the needle it would be better. With regard to this idea of purulent effusion and larger triangle, I have not had enough experience. Dr. Pottenger's case is very interesting. The sign must not be taken in itself but from a general survey of the chest.

THE PHYSIOLOGY OF GLYCOSURIA.*

By MARTIN H. FISCHER, M. D., Oakland.

The presence of dextrose in the urine is so greatly the predominating sign of a diabetes mellitus that a brief study of the physiology of glycosuria may well be regarded as a prerequisite to an intelligent understanding of the disease itself. While other forms of sugar besides dextrose are found in the urine in various conditions—for instance, sucrose after enjoyment of too large amounts of this sugar, or lactose in nursing mothers—the form of mellituria to which the following remarks refer is dextrosuria and the only sugar considered is dextrose.

Under what circumstances, first of all, do we find dextrose in the urine? So far as human beings, and at least the majority of animals examined in this regard are concerned, there can be no doubt that sugar is always present in traces in the urine of even entirely normal individuals. But this amount of sugar is too small to be recognized save by expert chemical means and has from the standpoint of the physiology of glycosuria more a theoretical than a practical interest.

By the term glycosuria, we may now recognize any increase in the amount of dextrose in the urine above this trifling normal amount. What are the causes that lead to such a glycosuria? While, as we shall see, these may be many and various, they can all be grouped under two classes, namely, such as lead to an increased permeability of the kidney cells to dextrose, and second, such as increase the concentration of this sugar in the circulating blood. Under all ordinary circumstances, the circulating blood contains dextrose, but the per cent. present, while subject to considerable variations, at no times normally exceeds (about) 0.2%. When the concentration of sugar in the blood exceeds this value, the kidney cells are unable to hold it back, and some of it goes over into the urine. The same end is accomplished when, instead of raising the per cent. of sugar in the blood, the permeability of the kidney cells is increased so that sugar may now go over into the urine even when present in less than 0.2% in the blood.

Let us now consider in somewhat greater detail the varied circumstances which may bring about one or the other of these two conditions.

(1). *The glycosurias not associated with an increase in the concentration of sugar in the blood.*

Under this heading fall the renal diabetes, of which, so far as I know, only three experimental forms exist. The first of these is the phloridzin or phloretin glycosuria. If either one of these substances—of which phloridzin represents the glucoside of the other—is introduced intravenously, subcutaneously or per os into an animal, an excretion of dextrose begins in the urine within a few hours after its administration and, continuing from one to several days, ceases when all of the poison has been

eliminated. During the entire time of the glycosuria no increase in the concentration of sugar in the blood is noted.

Such an increase in the permeability of the kidneys to sugar is observed also after the intravenous injection of pure sodium chloride (and other salt) solutions. A third experimental form is that accompanying the increased urinary flow following the administration of caffeine, theobromine and diuretin.

From the standpoint of finding a counterpart in human glycosurias, the described forms are probably without interest. From theoretical considerations alone, there seems to exist no reason why a renal diabetes should not exist in human beings; but up to the present time there seems to be little evidence to sustain the belief that the described clinical cases are not such as have complicated rather than followed upon a kidney lesion.

(2). *The glycosurias associated with an increase in the concentration of sugar in the blood.*

Under this heading fall the majority of the experimental glycosurias, and probably all the clinical forms. It is well to begin our consideration of this group with a reference to the glycosuria which follows the ingestion of excessive amounts of carbohydrates. Generally speaking, every animal can be made to excrete sugar in the urine above the normal amount if only sufficient carbohydrate be consumed in a sufficiently short period of time. Under such circumstances a rapid absorption of sugar is liable to occur, with a resulting increase in the concentration of the blood going to the liver. As soon as this increase exceeds the point below which the liver is capable of converting this sugar into glycogen, and so storing it, the sugar passes on into the general circulation, and if present in this above 0.2 per cent is eliminated in the urine. When present in excessive amounts, a second road of absorption is open to the carbohydrates found in the alimentary tract, especially in the lower portions of the small intestine. Under such circumstances sugar passes into the lymph and then through the thoracic duct enters the general circulation, whereby the kidneys are finally reached.

It is clear that a number of factors play a role in bringing about such an "alimentary glycosuria," among which need only be mentioned the rate of feeding, the amount of feeding, the kind of carbohydrate fed, the rate of absorption, the region of absorption, the amount of sugar already in the blood, the condition of the liver, the condition of the muscles, and the state of the kidneys. After what has been said, it will not seem strange that the "toleration limit" for carbohydrates is different, not only in different individuals, but in the same individual under different circumstances. We see also how, through pathological states of the most varied kinds, what may be called the normal toleration limit of an individual can be markedly decreased, as illustrated in the infinite number of grades of glycosuria noted in diabetics.

With these remarks on a physiological glycosuria as determined through excessive consumption of

* Presented as one of the papers in a symposium on Diabetes, California State Medical meeting, Del Monte, 1907.

carbohydrates, we can pass to an experimental, pathological form of glycosuria, namely, that which follows puncture of the floor of the fourth ventricle. Shortly after such an injury the per cent of dextrose in the blood begins to rise, and usually within an hour sugar appears in the urine. This excretion of sugar may continue for several days, at the end of which time the liver is found (practically) free from glycogen and sugar. It seems most plausible to suppose that injury to the medulla serves as a stimulus to nerve fibers which pass by way of the splanchnics to the liver, for if the splanchnics are cut, the diabetic puncture is ineffective. How the splanchnics affect the liver so as to make the glycogen in this organ break down into dextrose, and so allow this to pass into the general circulation, thereby raising the concentration of sugar here, is not known.

Instead of directly injuring the medulla it is possible to affect this indirectly and so bring about a glycosuria. Two roads are open for thus indirectly affecting the medulla, namely, the nervous and the circulatory systems, and it will not seem strange in consequence to find grouped side by side with Claude Bernard's diabetic puncture the now to be discussed experimental glycosurias.

Stimulation of the central end of practically any of the afferent nerves is followed by glycosuria. As the more striking examples we need only mention the sciatic, the vagus and the trifacial. As all of these stand in intimate anatomical relation to the medulla, it is conceivable that impulses traveling up these nerves affect the nerve cells found in the medulla, and that from here impulses pass over the splanchnics to the liver. This conception finds experimental support in the fact that division of the splanchnics renders these methods of inducing glycosuria ineffective.

A number of substances which may be injected into the blood are capable of affecting the medulla and bringing about a glycosuria. The chloride, iodide, bromide and nitrate of sodium are all effective in this regard, as also the chlorides of lithium, potassium and strontium. Interesting is the fact that in a suitably arranged experiment calcium chloride is able to inhibit the action of any sodium salt in bringing about a glycosuria.

Into this same group with the salts I am inclined to put the acids (lactic, phosphoric, sulphuric, hydrochloric, etc.) which have been found capable of inducing a glycosuria. It is easily imaginable that a change similar in character to that produced in the medulla by salts (a change in the colloids?) might be as readily brought about through acids.

The glycosuria which follows lack of oxygen, or any condition which in its ultimate analysis leads to a lack of oxygen, such as poisoning by carbon monoxide, curare, strychnine or tetanus toxine, must also be considered under this heading, for we know that, as a result of lack of oxygen, various acids and other poisonous substances are produced in tissues which we have no reason to consider act differently from the acids or salts that are intro-

duced indirectly into the circulation. From unpublished experiments, morphine no doubt also belongs in this class.

Various anæsthetics are also capable of producing a glycosuria, apparently through their action on the central nervous system. Chloroform and ether constitute striking examples. Chloral seems to affect not only the nervous system, but also the kidneys, in a way similar to that of phloretin.

The pancreatic form of glycosuria constitutes another type of the class associated with an increase in the concentration of sugar in the blood. If the pancreas is entirely removed from an animal, an excretion of sugar in the urine begins within a few hours. The glycosuria brought about by this means is the most intense of the experimental types and is associated with all the signs and symptoms of the severest diabetes. The excretion of sugar is not due to a lack of the pancreatic enzymes in the intestinal lumen, for simple ligation of the pancreatic ducts is not followed by glycosuria. Nor does glycosuria result if the entire gland is extirpated, but a piece of the pancreas is transplanted under the skin. But let this piece be removed, and sugar promptly appears in the urine. The facts are explained by saying that the pancreas gives off an internal secretion to the blood, the presence of which is necessary for a proper carbohydrate metabolism. The nature of this relation of an unknown constituent of the pancreas to carbohydrate metabolism is unknown. Experiments exist which claim to prove that, while extracts made from either muscle or pancreas are incapable of splitting dextrose, a mixture of these two does so readily. But these observations have been severely criticised.

With pancreatic glycosuria we have to consider the glycosuria which follows the intravenous injection of adrenalin. We know that this substance owes its effect to its action upon the pancreas. When locally applied to this organ a glycosuria soon results. With adrenalin can be classed a long series of chemicals which have nothing in common with adrenalin except a reducing action. The cyanides, when locally applied to the pancreas, also bring about a glycosuria, apparently through an action which results indirectly in the production of reducing substances within the pancreas.

A last (as yet not well established) form of glycosuria, is the hepatic. The injection of ether and certain other substances into the portal vein is followed by the appearance of sugar in the urine. Clinically this hepatic form of glycosuria finds a parallel in the glycosurias associated with liver cirrhoses.

All the forms of glycosuria enumerated have been claimed to have their clinical parallels. Every one has heard of nervous and pancreatic forms of diabetes, of glycosurias associated with injuries to nerves, liver, etc.; but too many of these parallels have been hastily drawn and upon the slippery ground of clinical observation.

In the foregoing only such measures have been considered as experiment has actually proved effect-

ive in bringing about a glycosuria. It must be clear to every one, however, that these in no sense constitute *all* the possible disturbances which we may imagine capable of so interfering with the consumption, absorption, storage, utilization and elimination of the various carbohydrates (and other foodstuffs) as to lead to a glycosuria.*

Sugar may appear in the urine in consequence of any of a dozen causes and, it is well to remember, without any morphological evidence. The valuelessness of morphological pathology to give us an insight into the nature of many of the so-called metabolic diseases shows itself nowhere better than in this very subject of diabetes, to an understanding of which not one morphological pathologist has contributed. In the end the solution of the problem lies with the physiological chemist, more probably still with the physical chemist.

Attempts have been made at various times to reduce the cause of all glycosurias associated with an increase in the concentration of sugar in the blood to one fundamental change in carbohydrate metabolism, such as an interference with certain obscure nervous influences on the liver, a decreased power of the tissues to oxidize dextrose, etc. None of these have succeeded, and it would be strange if they did. In fact, most of the evidence is in favor of the idea that an increase in the per cent of sugar in the blood may be the expression of any one or more of a series of such fundamental changes. As the most striking experimental evidence in this direction we have the effect of puncture of the medulla upon an animal rendered diabetic through removal of the pancreas. Here the glycosuria, already intense through extirpation of the pancreas, becomes still more severe when the medulla is injured.

Nothing has been said regarding the evil consequences of a glycosuria. The mere loss of a certain amount of sugar by an organism, while not harmless, is comparatively unimportant. When the tissues are persistently bathed in a sugar solution having a concentration above the normal, they suffer a certain intoxication; but the experiments made to prove this are not very satisfactory. The chief effects of a glycosuria are therefore not at all those of the glycosuria itself, but are dependent upon the changes in metabolism which so frequently accompany a glycosuria. Scattered experiments show that in animals rendered glycosuric by various means, poisonous chemical substances—for example, organic acids of various kinds—are formed in large amounts. The action of these upon the organism

then gives rise to the intoxications observed. In addition to the changes in carbohydrate metabolism, disturbances in nitrogenous metabolism frequently accompany glycosuria; but into a discussion of this question we can not enter.

I have been asked to give in my paper a definition of diabetes mellitus. It would be absurd to repeat that it is a disease the cardinal sign of which is a more or less persistent excretion of dextrose in the urine, for while some would include under this heading glycosurias which after persisting a number of days or weeks disappear under treatment, others consider no glycosuria a diabetes mellitus unless it persists in spite of all treatment and finally kills its victim. The simplest way out of such a difficulty is found in making a definition fit facts instead of facts a definition. Until such time as we can clinically say, glycosuria due to pressure of a tumor on the medulla or to lack of a certain constituent of the pancreas, why do we not hold to the facts at our disposal and say, persistent glycosuria of unknown cause, transitory glycosuria due to pressure of a gumma on the vagus, etc., and so forget entirely our diabetes mellitus which serves at present, particularly for those glycosurias the origin of which is obscure?

CONCERNING THE NECESSITY OF WATCHING THE HEART IN DIABETES.*

By C. M. RICHTER, M. D., San Francisco.

It is my purpose in this paper to emphasize the importance of watching the heart of a diabetic.

For over 30 years I have considered it my duty to examine carefully into the condition of the heart whenever the patient presented any serious illness of any description. I make it my duty then to examine the heart carefully at every visit. It has been my privilege in consequence to become aware of many changes in the heart's action, as we find them recorded in the medical literature of the last five years, and to forestall to some degree that changes in the heart's action, in the sounds of the heart, in the size of the heart, etc., are exceedingly frequent during any serious illness. If you look at the textbooks on diabetes you will find for instance in the 1906 edition of Osler under Morbid Anatomy of Diabetes the two lines, "The heart is hypertrophied in some cases—endocarditis is very rare; arteriosclerosis is common." Naunyn in his second edition of 1906 (Nothnagel series) considers arterio-sclerosis complication as very common. He refers to disturbance of circulation in a great many patients, who suffer from *mild* diabetes and are above 40 years of age, principally blaming the arterio-sclerosis for such symptoms. But he considers it as possible, that the diabetes may entirely disappear during an aggravation of the symptoms made by arterio-sclerosis. He speaks of the feebleness and debility of diabetics, when their nutrition suffers, but ignores the heart's condition in reference to it. However, he says, on page 261, "Schmitz machte

*Experimental observations are at hand, for example, which render it not impossible that the synthesis and analysis of glycogen in the liver represents a reversible process occurring under the influence of perhaps one, possibly two ferments. It is an easy matter to imagine how such a reaction, which under ordinary circumstances has a certain equilibrium point, can be influenced by a whole series of external conditions that displace this equilibrium point more or less toward one side or the other. In this way the ordinary relationship of sugar to glycogen might be so altered that equilibrium is established when less glycogen exists beside the sugar than under normal circumstances. This would allow the sugar in the blood to reach a higher concentration than normal, and when sufficiently great, to appear in the urine. Such reasoning should make us beware of any attempt which tries to explain all glycosurias on one basis.

*Read at the Thirty-seventh annual meeting of the State Society, Del Monte, April, 1907.

1876 auf das haeufige Vorkomuen von 'Herzschwaeche' bei diabetes aufmerksam." On page 262 he says, "genauere Studien liegen fuer den Diabetiker in dieser Richtung noch nicht vor" (referring to the action of the heart in consequence of arterio-sclerosis). All affections of the myocard, he thinks, are principally caused by arterio-sclerosis, gout, or adiposity. Israel (page 269) first called attention to the happening of hypertrophy of the left ventricle in 10% of cases of diabetes, and says it is independent of affections of the heart and arteries. He believes that the kidney's insufficiency may be the cause of it. Naunyn adds, "Klinisch ist das Vorkommnis nicht verfolgt." Naunyn nowhere refers to psychic influences on the heart of diabetics.

In his chapter on treatment Naunyn does not refer to the heart at all except in an indirect way. Osler and Naunyn advise that sources of worry should be avoided and that systematic, moderate exercise should be taken. Of course, both lay stress on mental shock and severe mental strain and worry as etiological factors.

Naunyn says, page 91, "Alle gemuetsbewegungen spielen als Ursache des diabetes eine grosse Rolle." He refers to diabetes proper which can not be traced to any organic disease and which is generally allied to psychic influences. Of course, it is well known that great fright may start diabetes. But it is also of record, that mental exertions are equally prone as the physical ones to increase the amount of sugar in a diabetic. Any severe depression of mind is liable to increase the percentage of sugar materially.

This fact alone, that psychic influences play such an important role in diabetes, should draw our attention to the condition of the heart in this disease. Krehl (*Munchener medizinische Woch.* Nov. 27, 1906) has furnished a very lucid paper on "Nervose Herzerkrankungen." He points out the difference between nervous heart affections, as for instance, caused by the nervus vagus and those caused by effects, as the hysterical ones. The latter are characterized by subjective complaints and disturbance of the heart's action. An insufficiency of the heart's action means its failure to do its normal work. We can never judge from the pulse alone, whether such an insufficiency exists. We are always guided in our diagnosis of this condition by changes in the sounds of the heart, by clinical symptoms in general, etc.

It has been my experience, that such changes in the heart's action are exceedingly frequent, especially in severe cases of diabetes, and that they generally go parallel to an increase or decrease of sugar in the urine. A diabetic who would put himself under my care, would be told to avoid all physical and mental exertions and to report at once when his general condition seemed to suffer. Invariably, when a diabetic would report trouble, as for instance great fatigue, more thirst, a dilation of the right heart would be found with a sharp, second pulmonary sound.

I admit that acute cardiac dilation is a much more common affection than any text-book would

lead you to believe. As Osler puts it, "The size of the cardiac chambers varies in health." Only in general practice, where the family physician has the chance to examine the heart under all possible conditions, one will become acquainted with the constant changes of the heart's condition due to the wear and tear of the life of today. In diabetes, however, insufficiency of the heart's action, it seems to me, means a great deal more, than one encountered in people who are not diabetics. It gives the warning of coming evil; it is almost invariably associated with an increase of sugar in the urine.

Of course, if a youth contracted his diabetes after an attack of diphtheria for instance, it is clear, that this previous infection gave a predisposition for the lessening of the muscular tone of the heart. Similarly, in an old man, suffering from arterio-sclerosis, a good foundation is laid for cardiac dilation. The use of tobacco may have the same influence. But this does not lessen the importance of cardiac dilation in diabetes; in fact, it accentuates it. Especially, all acute cardiac dilations of nervous origin will at once point to new dangers coming to a diabetic from that source. Of course I do not look at this dilation of the heart merely as an interesting symptom, like a patellar reflex or a dilated pupil. A dilation of the right heart with a considerable increase in the cardiac dullness generally means an increase in the size of the two large blood glands—liver and spleen. The liver normally contains about 25% of our blood, and the spleen, when enlarged to 5 or 6 times its normal size, will contain considerably more than 1% of our blood. It is obvious, that the retention of such a large amount of blood in liver and spleen constitutes a great loss to the patient. He becomes anemic to a certain degree, and what this excess of blood in the liver may mean in regard to the appearance of more sugar in the urine, is a matter ever ready for our speculation. I repeat, that acute dilation of the heart of a diabetic appearing with other signs of heart insufficiency generally forestalls or accompanies an aggravation of the disease. It has been my experience, that, coming to the rescue of this insufficiency of the heart by proper medication and proper hygienic measures, it is possible and often easy to reduce the amount of sugar in the urine and in some instances this has proved as life saving to the patient as the treatment of the beginning of coma by large doses of bicarbonate of soda.

Discussion.

Dr. A. W. Hewlett, San Francisco: In considering the prognosis of diabetes, one must consider the class of cases. They are usually divided into mild and severe cases. The severe cases are those in which sugar persists even though the patient is on a diet free from carbo-hydrates. These very severe cases are of much worse prognosis than the milder cases. There should be no attempt to form a prognosis from the percentage of sugar without due regard for the carbo-hydrates taken. It is only on regular diet that we can make any inference from the sugar. It has been found in the milder cases that there is a great difference. Most writers have

attempted to divide these cases according to the amount of carbo-hydrates they will tolerate. Van Norden divided the cases into moderately severe and very mild. The very mild were those cases which tolerated 60 grams of bread without sugar appearing. If they will not do this, they are moderately severe cases. Another author has attempted a similar division in which it takes 100 grams of bread to excrete more than 20 grams sugar. If 10 grams or less is passed it is a mild case, but if 20 grams or more it is a moderately severe case. In the second place, the prognosis of diabetes depends upon the effect of treatment. Many patients after a certain amount of strict diet have an increased capacity to assimilate carbo-hydrates. After being on this diet for two or three weeks they are able to take more carbo-hydrates. This is what we expect in all cases. If we fail to get this the prognosis is very bad. In the third place the prognosis depends upon the acidosis present. Here again we must pay attention to the diet. If the carbo-hydrates are shut out the acidosis must increase. Aceton, diacetic acid and oxybutyric appear. This is much worse if on a liberal diet. We expect this to appear when the patient is first placed on a strict diet, and it can be disregarded in mild cases. After several weeks, as a rule, the amounts diminish.

In severe cases of diabetes this danger of increasing the acidosis is very serious when strict diet is given. I twice saw patients thrown into deep coma by being placed on severe diet. All later authors warn against this. The patients should be watched very carefully. These are the most important factors in considering the prognosis. There may be another view and that is the cause of death in the different forms. In the severe cases the cause of death is coma. Van Norden states that 80 per cent die in coma. In the moderately severe I have tabulated Hirschfeld's records showing 8 from coma, 7 from nephritis, 8 from apoplexy, 2 from cardiac insufficiency, 4 from infections of the lung such as influenza, bronchitis, etc., 2 from gangrene, 2 from tuberculosis and from other causes 4. Attention should be called to the fact that fewer died in coma than in the severe form and more died from nephritis, influenza and cardiac insufficiency. In the mild cases (26) there were no cases of coma, nephritis 1, apoplexy 6, influenza, bronchitis and pneumonia 6, tuberculosis 1, gangrene 1, carbuncle 1, and 10 from other conditions not depending upon diabetes. Attention should be directed to the fact that there were six from apoplexy though no deaths from coma. Coma occurs especially in the severe form of the disease; 80 per cent of severe cases die in coma. The other causes of death may be grouped as arterial and other degenerations. Less important is arterio-sclerosis. This is found in a large proportion of cases of diabetes which occur in older people. This may be the cause of the diabetic gangrene. Van Norden states that 20 per cent of his mild cases develop gangrene, occurring especially in untreated cases. Nephritis and apoplexy may be the cause of the arterial degeneration. The third group is infections. A large number of diabetic patients die of influenza, pneumonia and bronchitis and often when they do not die of these disease they suffer very much and recuperate very slowly. Tuberculosis is not so common as generally believed. The danger of operation is due to the fact that the patient is unable to resist infection and dies of it where the normal patient would have recovered. The reason why diabetics are unable to resist this infection is not clear. It has been shown on dogs rendered diabetic that their blood serum is unable to destroy the different bacilli as well as it should. Of great practical importance is the fact that by keeping the patient free from sugar, in these moderately severe and

mild cases, we greatly diminish the arterial degeneration and the number of cases of gangrene and other conditions. Most cases of gangrene go to the surgeon without ever knowing that they have diabetes. They are the untreated cases which are especially likely to develop gangrene. The cases which have been under strict treatment are not so likely to fall victim to some arterial degeneration.

Dr. L. J. Belknap, San Jose: In discussing this treatment, I will say that I have had considerable institution work of this character, with diabetic patients, and I find the blood pressure to be high, the skin dry, scaly and sometimes shiny. In these conditions we must assist nature to overcome the condition. In hydriatics we find a valuable aid. I have treated cases very successfully almost eliminating the sugar, by the hydriatics and dietetics. Of course we have to consider the high tension and to assist the heart, because we find here organic difficulties which we can aid by these means and bring back that circulation to the skin by successive treatments with neutral baths and Nauheim baths and various frictions. We can not go to any degree of severity either in the hot or cold. This is the weak point at the watering places. The point to be made is to assist nature to overcome this condition and bring back the normal condition of the skin. The electric light bath given mildly brings the patient to perspire and such treatments are of aid. In these cases we assist the dilatation of the arteries and increase the flow of urine.

Dr. A. T. Piercy, Oakland: I was very much pleased with these papers. The first helps us to understand the pathology of the disease. Until we understand the cause of the trouble with the organs at fault, the treatment can be illy understood. There has been but little said in the treatment of diabetes. It has been my fortune to have quite a number of typical cases under my care and I find there are several methods of treatment. In all severe cases of diabetes, although the sugar is large in amount, the amount of the urine is always large. This must be due to quantities of water. I have had patients drink a quart of water and immediately urinate a quart. My treatment is to limit the amount of water which reduces the amount of sugar and the thirst is stopped.

Dr. D. L. Deal, Pacific Grove: I think I can say a few words on this subject as I have been a diabetic myself. The principal question is the treatment and burning up of the excessive sugar. The questions of diet and clothing and exercise are most essential. I look upon medicine as secondary in importance. For many years I have been troubled with valvular weakness. One symptom to be mentioned is the effect of the circulatory system on the skin. I was troubled a great deal with constant pruritis. It was this and frequent pain in the side which directed my attention to glycosuria. I have followed out a system following active exercise for the last three or four years. I have been unable to find traces of sugar for the last 6 or 8 months. The point I wish to make is that medicine should simply assist the result of the proper treatment by exercise.

Dr. H. N. Rowell, Berkeley: I have often wondered what influence, if any, heredity may have with diabetes. Some of you may remember that I reported a series of four cases of diabetes occurring in children under five years of age. This is a condition which is very rare. The authorities cite about 70 cases. I do not mean temporary or functional glycosuria, but in these cases I thought them to be true diabetes. In a case which has since appeared and which tallies with the others, it is interesting to note that the father is an inebriate, two brothers are in one of our state institutions

and another brother is strikingly eccentric. In the other four cases I was able, in one of them, to determine a tumor pressing upon the medulla and in each one of these instances we have noticed something of a hereditary nature. Whether this is a mere coincidence or not, I do not know.

Dr. P. K. Brown, San Francisco: I should like to ask if there is any explanation for the occurrence of traces of sugar in cases of diabetes insipidus other than the permeability. I would like to ask whether operation on any particular part of the body is more apt to be attended with the conditions following diabetes, than operations on other parts. It has been my experience to have peculiarly fatal results in operations for gall stones and stomach troubles in diabetics. I recall two cases. None of the operations was very severe and none in diabetics of severe grade. With regard to what has been said about prognosis, I want to emphasize one point and that is the extraordinary resistance to sugar in different cases. I recently saw a diabetic, with Dr. Watkins, who is known to have been diabetic for 23 years and he died at the age of 58. He never took any care of himself, and especially not as far as diet was concerned. I recall another patient under my care 12 years, who could not be made to diet and never had any symptoms of diabetes further than the thirst, yet in all examinations during the 12 years he never had less than 12 per cent of sugar in the urine which was always over 2000 c. c. a day. He never had a single symptom of diabetes except the thirst. On the other hand, in diabetics where the conditions are extremely mild, so far as elimination of sugar goes, there is an extraordinary intolerance to the disease. I recall a diabetic of a few years standing who took a walk of two miles, which was unusual for him (and he had to attend the wedding of his daughter within two days), and from the excitement and all, he died in a diabetic coma within 48 hours in spite of intravenous injections of bicarbonate of soda. I had further experience with him once before, when he was attended by a nurse in order that he should take nothing but the Van Norden diet. He went to a baseball game one afternoon and had .3 sugar immediately afterwards.

Dr. T. C. McCleave, Berkeley: I think we possibly sometimes see cases showing some of the other marked changes common to this condition preceding the sugar in the urine. All the speakers have dealt with the sugar in the urine. I had a patient sometime ago who I first saw with gangrene of the leg. He was a man of 65, moderately severe drinker. The trouble then was gangrene of the foot. Repeated examination of the urine showed a total absence of sugar for several weeks. The amputation was followed by good union and the man made an apparently good recovery. Within two or three months thereafter there developed a rapidly fatal diabetes. He died within one year after the gangrene of the foot. It would be interesting to know the relation between the early gangrene and the development of the typical diabetic condition. Some condition there undoubtedly led to the gangrene and later to the diabetes.

Dr. Hoisholt, Stockton: In connection with what Dr. Fischer has said, I would say that it is a common thing for the neurologists to find in the history of nervous or mental trouble, a history of diabetes direct or indirect. In connection with insanity, glycosuria is met with. It is rather rare. With regard to some of the manifestations in such cases, we should have some sympathy with the patient when carrying out the strict diet. I have seen a couple of cases where the glycosuria was marked in manio-depressive forms during the melancholic stage. In one case the patient would have to be held when the food was carried by him to

other patients. He would fight to get away trying to get something to eat. Also when he was fed with a spoon he would grab hold of the food and cram it into his mouth as fast as he could.

Dr. C. M. Richter, San Francisco: I would like to speak of the treatment with regard to surgery. A patient of mine, a man of 70 years, who had arteriosclerosis, consulted me with pain at the rectum. A septic condition developed with high fever. Dr. Stillman had to open an immense abscess in which he could put his entire hand. There was quite a destruction of tissue. This patient had had diabetes for 10 years and he generally had from 1% to 2% sugar in the urine. Before the operation he had 2½% sugar. He had a rather feeble heart, but the principal point which I wish to bring out is the aid to be given to such a man. We should give large doses of bicarbonate of soda before the operation. This was done by me. I gave him up to 100 grams and he stood the operation very well. A number of incisions had to be made. It was a very severe case and still the man pulled out of it in good condition. The acidosis remained under control and disappeared gradually, entirely. The man is now in the east and was free from sugar for an entire year after the operation. Now he is beginning to have a little sugar again. It shows that it may be possible to save life by giving bicarbonate of soda.

Dr. Burke, Highland: I have been anxious to hear the surgeons discuss this matter. It seems to me that anything that is prone to produce a profound impression on the nervous system will produce a diabetic coma. I have seen diabetic coma follow severe fright in diabetic patients. The anesthetic in diabetics increases the acidosis of the urine. It also depresses all vital functions of the body. I believe that death from the anesthetic is due to the increased acidosis and increased inability of the system to care for the toxins. I have thought it possible that morphine-scopolamin might not have these effects. I have had some experience with this anesthetic and it is remarkable how close the patient can be kept to consciousness and yet be subject to the will of the operator. The statement afterwards is that they have not been conscious of any feeling. It is possible to limit the quantity of the chloroform. In regard to these diabetics operated upon for gall-bladder and stomach troubles, I believe that the shock is what induces death from coma and it is well known that operations on the upper abdomen are more productive of shock than those on the brain itself.

Dr. Fischer, closing discussion: I have been much pleased to hear no one talk about the per cent of sugar in the urine. The percent of sugar in the urine means nothing except to tell you how much excreted in 24 hours. It is not the amount of sugar but the concentration that counts. With regard to exercise and its value, we must determine this for every patient. Patients eliminating no sugar on a definite amount of carbohydrates a day say 50 grams can be tried with a little walking and allowing him 75 grams. We hear a great deal of discussion on the amount of water or urea a man eliminates. He can not make this except out of something that is introduced. It has to come from somewhere. Our estimations are valueless unless we know what goes into the body. A man will eliminate just what he is taking in or more. Patients complain of not urinating enough or eliminating too much. What he takes in he must eliminate. I think we should give these patients water. They call for water. It is the concentration that counts with regard to toxicity. It is not having 50 grammes of these substances giving rise to acidosis, but a matter of concentration. When diabetics do not get water their appetites fail. There are normally traces of sugar in the urine. Above

the trace, we deal with pathological state. Any of us can eat candy and have a little sugar in the urine. I do not know anything about heredity. With regard to diabetes insipidus, I think the question of urinary secretion and amount of sugar are separate things. When you have a diabetes insipidus. I think it is diabetes unless it is due to some alimentary trouble. I can not deal with Pavies work because it is one of the attempts to explain all forms of glycosuria upon one basis.

SAN FRANCISCO'S HEALTH DEPARTMENT.

Report to the Supervisors by the Health Officer,
Dr. Jas. T. Watkins.

The Honorable the Board of Supervisors—Gentlemen: The department of public health includes the following divisions: The Alms House, the City and County Hospital, the Twenty-sixth Street Hospital, the four emergency hospitals and hospital for the detention of the insane, the smallpox hospital, city physicians whose duty it is to visit the prisons, jails and indigent sick, and finally the department of sanitary inspection.

tained by means of requisitions on the municipal At present all supplies and maintenance are ob-commissary—salaries excepted. No appropriation is made for emergency repairs nor for incidental expenses.

In theory extensive repairs are made on requisitioning the Board of Works. In fact they are not made at all. (See detailed reports.)

It is reported to me that many requisitions made on the municipal commissary have been refused and the applicant referred to the Board of Public Works, which in turn referred him back to the municipal commissary.

The emergency hospitals are an exception to the rule in that they have a separate appropriation for maintenance. The appropriation for 1907-8 is \$10,200.00. This is the same appropriation that it received three years ago. But now not only is it called upon to treat many more patients than formerly, but also the cost of maintenance has gone up 30 per cent.

Despite the fact that the service lacks almost everything that it could lack and still stay in commission, the appropriation made by your predecessors in office is being exceeded by about \$300.00 a month. The ambulances are said to be dangerous to ride in, patients are limited to but one sheet at a time, and the commonest surgical necessities are lacking.

I am fairly certain that unless more money can be had, one or more of these hospitals will have to be closed. (See accompanying detailed report.)

The Alms House.—Your finance committee asked me for a general report on the situation of the health department. I have not succeeded in locating Frank Schmitz, the superintendent of the alms house. However his commissary has been instructed to have his requisition list at the Central Health office on Monday morning. In that event it will accompany this report. In the course of an inspection conducted by me on July 17th, it was noted that not only had the buildings been damaged by the earthquake, but that in themselves they were very old and dilapidated. I have made no attempt to verify the idea, but imagine the alms house must be coeval with the City and County Hospital. The latter was built, I am told, in 1872.

The City and County Hospital is in worse shape than the alms house. The department of sanitation would not for a day condone in the property of a private individual the infringements of the plumb-

ing ordinances which appear in these buildings. (See plumbing inspector's report.)

At no time since I have been connected with the hospital have supplies sufficient for its needs been obtainable in the usual way from the municipal commissary. Patients and employees have suffered from insufficient food and both medical and surgical services have been shamefully curtailed in their usefulness. (See accompanying requisitions for supplies, for surgical instruments, and for medical appliances.) (See also Dr. Porter's report on the conditions obtaining in the contagious pavilion.)

It is to be noted that while the new City and County Hospital may eventually be built on the site near the alms house, the day when it will be ready for occupancy is still years distant. During these intervening years the present building will continue to be used.

The Twenty-sixth Street (Leper) Hospital.—A sum of \$20,000.00 has been appropriated to rebuild this hospital properly. The plans submitted to the health commission have, I believe, not given satisfaction. Without going into details, I believe I may say that most suitable would be an arrangement of separate small cottages or pavilions, connected with a central heating plant. It may be a long time before such a hospital is ready for occupancy, however. In the meantime certain repairs mentioned in the appended report are urgently needed. These unfortunates suffered agonies from cold last winter.

The Smallpox Hospital.—For a discussion of the so-called smallpox hospital I beg to refer you to Smallpox Physician Porter's report, which is appended. Further comment is not needed. I have personally verified the several statements made.

City Prison and Jails.—The sanitary condition of the city prison and of the jails leaves much to be desired. Especially to be condemned are the kitchen floor and sub-cellar in jail No. 2, and the prisoners' toilets in the city prison. I hope to make a more definite report on this subject later.

The Department of Sanitary Inspection.—It is to be noted that the institutions thus far referred to were designed for the most part for the reception and care of the derelicts and wrecks cast up by the tides of life, and for some of the less offending of its pirates. I turn now to the department of sanitation. This more than any other is of importance to the body politic, for it has to do with the prevention of disease. This department supervises both the manner of the production of milk at the dairy, and the method of its distribution to the customer. Further it determines that the quality of the milk when offered for sale is consistent with the requirements of law. It bears a similar relation to the sale of meat and of all meat products. And the enforcing of the provisions of the pure food laws falls within the scope of its activities. It oversees the screening from flies of vegetables, meats, fruits and foods generally which are exposed for sale. All manner of sanitary nuisances and the inspection of stables, plumbing, sewers, markets, are attended to by the staff of this department. Finally it arrests, hales into court, and prosecutes infringers of the health ordinances.

I am able to report that this service, the inestimable value of which does not begin to be appreciated by the community, is doing efficient work. Its laboratories, however, are hampered and curtailed in their usefulness for want of funds with which to purchase food supplies, such as butter, condensed milk and food stuffs of all kinds for subsequent analysis. We cannot under the law confiscate these things, consequently the only way by which you can be sure of what you are eating is by allowing us money to buy samples to test for you.

For this purpose I unhesitatingly ask for a mini-

imum appropriation of \$50.00 a month, or \$600.00 a year.

In preparing this hasty report, there has been no opportunity to confer with the members of the health commission. For the opinions expressed and for any errors of statement which may have crept into it, I alone am responsible.

Respectfully,

JAS. T. WATKINS.

Health Officer.

San Francisco, Cal., Aug. 3, 1907.

J. T. Watkins, M. D., Health Officer—Dear Sir: Herewith we beg leave to submit our report on the plumbing in the City and County Hospital:

(1) The enamel of all bathtubs in the wards is cracked and split, following the use of acids, etc., the iron of the tubs being simply painted over. They cannot therefore be cleaned properly and classed as sanitary.

(2) The urinals throughout the hospital are not properly supplied with water; a violation of Ordinance 1504, section 34. To come within this ordinance they should have supply tanks and flush pipes.

(3) The sinks are of wood lined with zinc, and therefore in violation of section 42. They are further leaky and defective. To come within the law they should be of enamel, porcelain, or of terra cotta.

(4) The enameled sinks are so worn as to leave the black cast iron bodies exposed.

(5) The wooden trays in laundry and vegetable room have completely rotted through and are falling to pieces. They are also in violation of section 42.

(6) The floor drains throughout the entire hospital are not properly trapped. A violation of section 24. The bell traps now in use should be done away with, and a cast iron trap supplied with water should be under each floor drain.

(7) The leader pipes from roof are not connected properly; a violation of sections 21 and 22. Further they are nearly all rotted. They should, where the openings are close to windows, be trapped and fed with water. Other leaders should be connected to the sewer by cast iron pipe extending five feet above the ground.

(8) The asphalt floors of all lavatories and the cement floor of the laundry are cracked, and allow the waste water to pass through to the ceilings below. Urine and other waste getting under these floors set up an odor which cannot be eradicated. Really urinal and lavatory floors should be raised above the level of the main floor, so that their drainage may be caught in the drainage system of the main floor.

(9) The cesspool near the kitchen is not properly connected with the sewer. A violation of section 24. To keep out sewer gas and odors, the pipe connecting the cesspool to the sewer should form a trap.

(10) The water closet bowls are of a type which violates section 39. They should be of the "wash down" or "siphon jet" type.

(11) The supply tanks to same are worn out and leaking. Consequently there is a great waste of water, and at no time does enough water get into the tanks to flush the tanks in a sanitary manner.

(12) Throughout the wards filthy old iron hoppers are in use, violating section 32. There should be enameled slop sinks.

(13) In most places the sinks are not flushed, but allow the waste to splash against the walls.

(14) All the basins and wastes throughout the Administration building are not vented. A violation of section 28. They could be vented, however.

(15) Throughout the hospital many of the plumbing fixtures are connected directly with the sewer

without a vent. A violation of section 28. In most instances vents could easily be put in.

Respectfully,

PLUMBING INSPECTORS.

The Honorable the Board of Supervisors—Gentlemen: In handing you this list of "urgent needs" for the City and County Hospital, it is my duty to inform you that the articles to which I am about to take exception in the accompanying list are absolutely necessary for the repairs of the defective, unsanitary and unlawful system of plumbing at present obtaining in the City and County Hospital.

Requisition No. 2924.—"1 dozen 1¼-inch rubber elbows." I am advised that these are contrary to law. Their purpose is to connect the flush pipe with the closet bowl. They should be of brass, nickel plated.

Requisition No. 2923.—"1 dozen closet tanks with flush pipes." I am advised that six flush pipes would be sufficient, as half those in use could be used with the new closets.

Requisition No. 2922.—"½ dozen vented 'washout closet' bowls." I am advised that according to section 39 this type of bowl may not be used inside any building. Either the "wash down" or "siphon jet" type should be employed. The latter is rather the better and a little more costly.

"One dozen full S lead traps 1½ inch." This type of trap cannot be used except where fixtures are not vented; and fixtures without vents are against the law. To get within the law P traps would have to be used, and that would necessitate changing the waste pipes.

"One dozen half S lead traps 1¼ inches." I am advised that size 1½ inch is the smallest permitted by law. See section 31. Here the waste pipe would have also to be changed since it too is only 1½ inch.

"One dozen 5-inch corrugated copper balls." I am advised that the zinc tank employed and copper ball called for would form a battery which in a relatively short time would "eat" the solder out of the tank. Therefore zinc balls should be substituted.

Respectfully,

JAS. T. WATKINS.

San Francisco, Cal., Aug. 3, 1907.

The Honorable the Board of Supervisors—Gentlemen: The following list of instruments is absolutely needed at the City and County Hospital: 1 set male sounds, 1 stone searcher, 1 trephine drill, 1 small trephine, 1 Esmarch's bandage, ½ dozen small scalpels, 2 Luer's syringes, 1 set Rongeur forceps, 1 Liston's bone cutting forceps, 4 long hysterectomy clamps, 3 Mayo's long intestinal clamps, 1 vaginal packer, 2 chain saw carriers, 1 placenta forceps, 2 dozen Martin's fistula needles.

Respectfully,

JAS. T. WATKINS.

Health Officer.

The Honorable the Board of Supervisors—Gentlemen: For the diagnosis and proper treatment of patients presenting various nervous diseases the City and County Hospital needs a movable switch board and appropriate dry cell batteries.

For the X-ray room the following appliances are needed: 2 heavy anode Crookes' tubes, 2 window curtains to shut out light, 1 Albers-Shonberg compression diaphragm, 1 pair heavy rubber gloves, 3 pieces of lead 3 ft. by 3 ft. by 1-32 inch to protect patient, 1 lead screen 6 ft. by 8 ft. by 1-32 inch, to protect the operator.

It has been repeatedly demonstrated that constantly recurring exposures to the X-ray cause sterility and eventually if persevered in, cancers. It is of the utmost importance that this screen should be procured

Respectfully,

JAS. T. WATKINS.

Health Officer.

The Honorable the Board of Supervisors—Gentlemen: The most marked advance made in the conduct of the medical side of the City and County Hospital under the past administration, that is, under the so-called Schmitz Board of Health, has occurred in the conduct of the contagious pavilion. As is usual, this is essentially the work of one man, Dr. R. Langley Porter. Dr. Porter is also physician to the smallpox and leper hospitals. Under his skilled direction a previously appalling mortality has been reduced to within the limits recorded by any of our Western hospitals. How much more it might be reduced were Dr. Porter and his assistants given proper facilities is a matter for interesting surmise. Of the difficulties under which they now labor I can give you no better idea than by appending Dr. Porter's last report of the needs of his department.

In this relation it occurs to me to remind you that Mr. Hearst of the Examiner is holding a sum of, I think, \$80,000.00, collected by him for the people of San Francisco, for the purpose of building a children's hospital. Nine-tenths of all infectious exanthemata occur, I believe, in children. Here is his chance.

Respectfully,

JAS. T. WATKINS,

Health Officer.

San Francisco, Cal., July 19, 1907.

Twenty-sixth Street (Leper) Hospital.

Dr. J. T. Watkins, Health Officer—Dear Sir: I respectfully submit a list of the needs of isolation hospital No. 2:

The inside of the building requires cleaning. Nineteen rooms with doors and casings ought to be painted. Sixteen rooms and the halls need white-washing. The kitchen range requires a new water back and new top plates. There are some leaks in the plumbing. The roof (which is covered with a layer of tar) ought to have a general overhauling before the rains set in. The fence requires some repairs. The main sewer is in bad condition and needs immediate attention. There is needed one "dog window," and a refrigerator 3 by 5.

Yours respectfully,

JAMES SHIELDS,

Steward.

Dr. J. T. Watkins, Health Officer—Dear Sir: The smallpox hospital, so-called, is not a hospital but a haphazard collection of shacks. The plumbing is antiquated and empties into a sewer the outlet of which has been broken by the work done on the Ocean Shore railroad in this vicinity. The Board of Public Works has neglected to repair it in spite of several complaints made by Dr. Hassler.

Bathing facilities are insufficient; and as bathing is the basis of the modern treatment of smallpox, the seriousness of this deficiency is evident.

There is urgent need of a building or pavilion, somewhat removed from the hospital buildings, in which suspects may safely be detained for observation.

Kitchen facilities are crude and inadequate. Finally the ambulance is falling to pieces. It is really dangerous to life.

Respectfully,

R. L. PORTER,

Smallpox Physician.

REPORT OF THE COMMITTEE (OF THE BOARD OF MEDICAL EXAMINERS) ON PROSECUTION OF ILLEGAL PRACTITIONERS.

Your committee on May 20th, 1907, secured the services of an attorney, Mr. Grant R. Bennett, who agreed to do the work of the board for a specified

sum per week. We also secured the services of a detective who agreed to do the detective work, and pay the expenses, such as fees to doctors for medicine, and services of the case he was investigating, provided this amount did not exceed five or six dollars per week. It was very soon found that the arrangement with the detective was not very satisfactory. A conference was had with Capt. Fredericks, the prosecuting attorney for Los Angeles county, who seemed heartily in sympathy with the action of the Board in freeing Los Angeles county, and the state, of illegal practitioners, and has been of the greatest assistance in our work. We have prosecuted nine cases, of which we have lost one, and have dismissed one complaint. There has been collected in fines \$300.00, and there is pending an appeal on good and sufficient bond, \$450.00 in fines.

One of the cases which is pending on appeal is the case of Dr. Chan (or Chung Hong), which occupied three weeks. Sixteen days of this time our attorney was actually in court. This case was notable from the fact of the length of time it occupied, and the number of jurors summoned. Seven hundred and fifty men were actually summoned and seven hundred and thirty-one were examined before a jury of twelve men could be procured, and would swear under oath that they would give equal credence to the testimony of a Chinaman testifying in his own behalf to that of a white man testifying under similar circumstances.

Total number of arrests—Raymond, Chong Hong (or Dr. Chan), Stahl, Greenall, S. W. Allman, McGilvra, Kupier, Moody, G. W. White, Dowling, Comez, J. Hinkle, Hollingsworth, M. M. Stephens, H. J. Schieke, Tom She Bin, Mrs. Woods.

Pending—L. Lulu, T. Lenny.

Convictions—Raymond, \$100.00 fine; Chong Hong, \$250.00 fine; Greenall, \$100.00 fine; McGilvra, \$100.00 fine; H. J. Schieke, \$100.00 fine; Tom She Bin, \$100.00 fine; total, \$750.00.

Sentence suspended—M. M. Stephens.

We have investigated, but not arrested, 49, as follows: Benzoiner Cure, Dr. Chamberlain, Electric Treatment, Mrs. Bridges' Cancer Cure, Dr. Vina Price, Miss Lender, S. J. Tedford, Verna Price, Mrs. C. H. Stevens, Kate Holmes, Bagley, B. P. Enlick, C. D. Pitzer, I. N. Frasse Consumption Cure, Prof. C. H. Leasher, Drs. Davis & Wilson, Dr. A. Von Rickert, I-X-L Truss Co., J. C. Aldrich, Miss Layiou, Mrs. Fisk, Letitia Richards, Lichty, Pendergrast, J. A. C. Heitt, F. G. Carpenter, H. C. Hall, Miss Lamb, Normand, F. W. Hazel, A. J. Irwin, J. W. White, B. Bowerman, A. D. Allen, W. McClellan, J. B. Bolton, W. R. Clumess, J. H. Myers, Julia McRae, W. A. Rosemond, J. A. Foster, Pacific Medical Company, W. J. Dobin, A. J. Allen, E. H. Grove, C. F. Willis, Dr. Bureysette, C. D. Costigan, J. T. Volki-man.

Our committee feel that thanks are due to the District Attorney, Capt. Fredericks, for the manner in which he has made his office conduct these cases; the patience he has had in getting in the details of them himself, and the actual time he has spent in the court room when our cases have been tried, which was, to say the least, an encouragement to the attorney who has been conducting our prosecutions. It is the recommendation of this committee that the County Medical Societies throughout the state be encouraged to start this work. It will be necessary for them to advance some funds, and possibly donate some funds to help this work, but with the Medical Law that we now have, it would be a disgrace to the state of California if quackery should be permitted to run riot as it has been doing in the past.

Respectfully submitted,

F. C. E. MATTISON, Chairman.

HERZSTEIN LECTURES.

The Herzstein Lectures for 1907 will be delivered by Alonzo Englebert Taylor, Professor of Pathology in the University of California. The subject of the lectures will be:

THE PRESENT LIMITATIONS OF LABORATORY DIAGNOSIS.

The lectures will be delivered in the Hall of the Century Club, Sutter and Franklin streets, San Francisco, at eight o'clock in the evening of the following days: Tuesday, September 10; Friday, September 13; Tuesday, September 17, and Friday, September 20. The topics of the several lectures will be as follows:

Tuesday, September 10—Diseases of the Alimentary Tract.

Friday, September 13—Diseases of the Renal System.

Tuesday, September 17—Diagnosis by Examination of the Blood.

Friday, September 20—Infectious Diseases.

You are cordially invited to attend these lectures.

COUNTY SOCIETIES.

MARIN COUNTY.

Meeting of Marin County Medical Society held at San Rafael, July 13th, 1907, at the office of Wm. F. Jones at 8 o'clock p. m. The meeting was called to order by the President, Dr. Jones. There were present Drs. Howitt, Mays, Hund, Dudley, Mills, Galehouse, Crumpton, Jones and Kuser.

Moved and seconded that the society send for fifty circulars of the Great American Fraud for distribution; carried.

Moved and seconded that the society subscribe for Collier's Weekly; carried.

Dr. Jones then read the paper of the evening, which was excellent and brought about an interesting discussion.

The secretary was instructed to communicate with the societies of Napa, Sonoma and Solano counties in regard to the possible formation of a District Medical Society of those Bay Counties.

There being no further business the meeting adjourned at 10:30 p. m.

H. KUSER, Secretary.

SHASTA COUNTY.

The most instructive and enthusiastic meeting of Shasta County Medical Society was held at McCloud Hospital, McCloud, Cal., July 20th. The society was the guest of Robert T. Legge, who is in charge of the hospital. The morning was spent in visiting the hospital and the holding of clinics. Many interesting cases were presented and methods of treatment discussed, and an operation for appendectomy concluded a very interesting session. The hospital was found to be well equipped with all the latest devices known to surgery and a well furnished X-ray laboratory, the workings of which were thoroughly explained to all present. This brought the morning session to a close.

The afternoon session opened with Dr. Legge in the chair. After a short business session the following papers were presented:

1. "Resume of Twenty-four years' Obstetrical Practice," Dr. C. E. Reed; 2. "Conjunctivitis Petrificans," Dr. H. B. Graham; 3. "Tuberculous Peritonitis," Dr. Phil H. Weber; 4. "Tonsils: Their Importance and Exposure to Infection," Dr. C. J. Teass; 5. "Problems in Treating Fractures," Dr. Robert T. Legge.

All the papers were enthusiastically discussed by the different members of the society, and much of

value received. All were of the opinion that this was the best meeting ever held by Shasta County Medical Society.

Dr. J. P. Frizell of Yreka was elected a member. A unanimous vote of thanks was then extended Dr. Legge for the interesting programme he had prepared and for the entertainment furnished us, after which the meeting adjourned. At 7:30 in the evening the society and visiting physicians were tendered an elaborate dinner at the McCloud restaurant by Robert T. Legge, after which we adjourned to his residence to finish the day's work with a rousing smoker, and it was in the wee small hours when the assemblage broke up.

Sunday Dr. Legge had prepared an automobile excursion for us to the McCloud river. After visiting the beautiful summer homes located there we were royally entertained by Charles Wheeler, several hours being spent with him, and we were indeed sorry when it came time for us to depart.

The return trip to McCloud was made over the famous McCloud boulevard, arriving in time to catch our train for our homes. This trip will long be remembered by all present, and those who were unfortunate enough not to be present missed a rare treat.

The society voted to accept the invitation of Dr. C. J. Teass to hold its October meeting in Kennett at the county hospital.

PHIL H. WEBER, Secretary.

RIVERSIDE COUNTY.

The last regular monthly meeting before the summer vacation, of the Riverside County Medical Society, was held at the Victoria Club house Monday evening, June 10, 1907.

Following an old-established custom, each member was permitted to bring his wife or baby as a guest, to the banquet which was held preliminary to the meeting. We were fortunate in having with us for this meeting Dr. and Mrs. George W. Cole of Los Angeles. Dr. Cole read a most able and interesting paper on "Some Conditions Found Within the Thoracic Cavity." The paper was most ably discussed by the members, and several phases of recent therapeutic and diagnostic measures employed in tuberculosis were freely commented upon.

Following the meeting the society enjoyed a number of musical selections rendered by Mrs. Griffith and Mrs. Parker. The guests present were Dr. and Mrs. George W. Cole of Los Angeles, Mrs. Taggart of Los Angeles, Dr. and Mrs. Outwater, Dr. and Mrs. Sawyer, Dr. and Mrs. Parker, Dr. and Mrs. Griffith, Dr. and Mrs. Atwood, Dr. and Mrs. Roblee, Dr. and Mrs. Martin, Dr. and Mrs. Payton, Dr. and Mrs. Tucker, Dr. Clarke, Mr. E. P. Clarke, Dr. Girdlestone, Dr. Baird and Dr. Walker.

GEORGE E. TUCKER, Secretary.

SAN MATEO COUNTY.

San Mateo June 3, 1907, society met at the office of Dr. Morrison. Members present: Drs. Ross, Plymire, Morrison, Clidester, Baker and Oldfield. Visitor, Dr. Schmoll of San Francisco.

During regular business the society took up lodge practice and insurance examination fees. These matters were laid over till next meeting, to be settled definitely then. A very strong movement is being made by our society to make a regular fee of \$5 for insurance examinations, and no lodge practice by members.

After a paper by Dr. D. B. Plymire on "Gunshot Wounds of the Abdomen," and one by Dr. Schmoll on "Newer Ideas of Treatment of Heart Disease," the society adjourned to the Perichon House for a

banquet. The next meeting is to be at South San Francisco on the first Monday in August.

WOOD C. BAKER, Secretary.

SANTA CRUZ COUNTY.

The regular meeting of the Santa Cruz County Medical Society was held at the offices of Dr. A. W. Bixby in Watsonville Monday evening, August 5, 1907.

The following members were present: Drs. A. W. Bixby, E. E. Briggs, G. S. Easterday, J. A. McGuire, Guy Miller, S. T. Pope, E. E. Porter, S. C. Rodgers, J. M. York, P. K. Watters, F. H. Koepke.

General letter No. 13 from secretary of the state society was read. The secretary was instructed to order 50 copies of the "Great American Fraud," a pamphlet reprinting the articles which appeared in Collier's, from the A. M. A., to distribute among citizens of the county.

The subject of investigating illegal practitioners in the county was brought before the society. A general discussion followed, after which Dr. S. T. Pope and Dr. J. M. York were appointed by the chair to investigate and report at the next meeting.

Dr. S. C. Rodgers presented a clinical case of ankylosis of both hip joints in a boy nine years old. The case was discussed by members present and also examined with the X-rays.

It was decided to have a social meeting in Santa Cruz at the Casino on Saturday evening, September 7th, and all members were requested to bring their wives.

F. H. KOEPKE, Secretary.

PUBLICATIONS.

Manual of Diseases of the Eye. By Charles H. May, Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York—1890-1903; Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York; Consulting Ophthalmologist to the French Hospital, to the Gouverneur Hospital, and to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, etc. Fifth edition revised with 362 original illustrations, with 22 plates, with 63 colored figures, 1907; \$2.00 net.

Whitman's Orthopedic Surgery. A treatise on Orthopedic Surgery. By Royal Whitman, M. D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons, New York; Chief of Orthopedic Department in Vanderbilt Clinic, New York. Third edition, revised and enlarged. Octavo, 900 pages, with 554 illustrations, mostly original. Cloth, \$5.50, net. Lea Brothers & Co., Philadelphia and New York, 1907.

The author has avowedly written this book for the student and the general practitioner. From the viewpoint of the orthopedic specialist it is in places unsatisfying. What has been written is always admirable, but there are many subjects upon which we would gladly hear more from so eminent an authority. Again and again where we had looked for illuminating discussions we find but the barest facts. A student's quiz compend could hardly be more terse; and we are forced to put down the book as far as ever from the solution of our problems. On the other hand we do not know where the student or the general practitioner could find a more complete, lucid, and in every way helpful discussion of joint tuberculosis of distortions of the foot, of congenital dislocations of the hip,

or of the several other commoner conditions to which whole chapters are devoted.

The trend of orthopedic surgery of late years has been toward the prevention of deformity. This necessitates the early recognition by the general practitioner of the predisposing causes of deformity, of their significance and of the mechanical conditions involved, an idea which the author has kept prominently before the reader throughout the book.

The plans of treatment advised are directly within the reach of every one, and those which the author himself has proved to be efficient. Should a colleague ask us to select for him a treatise on orthopedic surgery, saying that he expected to be compelled to take care of his own cases, we would unhesitatingly recommend to him this book of Dr. Whitman's.

The first 108 pages of the book are devoted to the discussion of tuberculous disease of the spine. After considering the pathology, etiology, and symptoms in general, the examination of the several regions of the spine, beginning with the lumbar, and including with each its differential diagnosis, is taken up. How the history should be elicited and the physical signs recorded, is shown at length. Here and there throughout the book, Dr. Whitman is most happy in the way in which he expresses the broad principles governing treatment. We shall not hesitate to quote these observations as they seem germane to the purposes of this review. Speaking of the general principles of Mechanical Treatment, we read "As the ultimate deformity of Pott's disease is, in great degree, caused by the force of gravity acting on a weakened spine, the most effective form of treatment must be fixation in the horizontal position, for in this position the strain of use and the superincumbent weight can be removed completely." This is accomplished by placing the patient upon the modified Bradford frame with which and its adjustment the text deals minutely. He adds that horizontal fixation "is of course a treatment not complete in itself, since it must be supplemented by the usual supports when the erect attitude is again assumed. Its duration varies from six to eighteen months." "Personally," he adds, "I have never seen other than favorable results from this method of treatment"—nor, for that matter, have we.

Chapter II deals with the non-tuberculous affections of the spine from syphilis to injury of the sacroiliac articulations. Twenty-two affections are touched upon in as many pages which also include twelve illustrations. This was a disappointing chapter in the first edition of this book, which appeared seven years ago, and is so still. To take a single example, the caption "Tabetic Deformity of the Spine" is dismissed in three and a half lines. "In rare instances deformity of the spine, either posterior or lateral, appears as a complication of locomotor ataxia. Fifteen cases are recorded. The characteristics of this form of osteo-arthritis are described elsewhere." The "elsewhere" begins on page 290 where rather less than two pages are devoted to the whole subject of Charcot's joints. But two references are given, and no cognizance has been had apparently of the work of Kurt-Frank (Centralblatt für Grenzgebiete der Medizin u. Chirurgie Bd. VIII Nos. 15, 16, 17:—1904.) who from a literature of 74 references has collected 27 cases presenting unquestionably this condition. Four of them had come to autopsy. The fact that during the past year two of these cases came under our own observation and in the preceding year another, inclines us to accept Frank's contention that the condition is of commoner occurrence than is generally supposed, but masked by the other symptoms of tabes. Special interest attaches to Charcot's joints of the lower lumbar of the spine, because

of their objective clinical resemblance to spondylolisthesis, a condition for which they have been mistaken (Kronig).

Chapter III is devoted to a consideration of Lateral Curvature. Except for an added picture or two it is identical with the same chapter in the first edition. The last edition, like the first, gives in detail two excellent systems of muscle-building exercises. Forcible correction in plaster of paris jackets is touched upon, and the antiquated scoliosis press of Hoffa, an appliance which its inventor discarded nearly a decade ago for the Wullstein machine, is pictured. The deduction is inevitable that the enormous activity of orthopedic surgeons in the study of lateral curvature during the past six years, has, in Dr. Whitman's opinion, been barren of tangible results.

We dissent from this view. In this country the X-ray studies by Bohm of scolioses due to other skeletal asymmetries, of congenital origin, by Lovett in the mechanics of the normal and of the scoliotic spine and by Feiss on the influence of changes in equilibrium and asymmetrical tension on spinal distortions, is of the very first importance. While in Europe, Wullstein of Holle and Lange in Munich have devised efficient methods of treating different phases of this condition. We regret that the subject is too technical and space too limited to admit of our doing more than direct attention to the work of these eminent men.

Dr. Whitman's chapter contains all that the non-specialist student would care to read of theory, pathology and symptoms, and elaborates with his accustomed accuracy the kind of treatment a general practitioner could carry out if he gave himself diligently to it. But there are cases which require more skill than the general practitioner can give, and special methods of treatment for which he lacks the appropriate armamentarium. If these facts are recognized it will be better for both doctor and patient.

Chapter V is devoted to a general consideration of tuberculous disease of the bones and joints. It is on a plane with the chapters on tuberculosis of the spine and of the hip, perhaps the most illuminating twenty pages in the entire book. We do not apologize for making the following excerpts in full: "The tuberculin test, although of some importance from the negative standpoint, is of no particular value as establishing a diagnosis of joint disease, for the reason that tuberculous disease of the lymph glands is so common even among those whose joints are free from disease. For the same reason it is valueless as a test of practical cure." Instances are on record, however, in which a marked local reaction in the form of an exaggeration of the symptoms of joint inflammation followed the exhibition of a dose of tuberculin and cleared up an otherwise doubtful diagnosis.

The book contains no more important paragraph than the following: "From what has been stated of the causes of disease, it follows that the general condition should include, if possible, a change in the hygienic surroundings, relief from the danger of further infection, pure air and proper food. These are as essential in the treatment of tuberculosis of the bones as of other parts.

"The importance of the constitutional treatment of tuberculous disease, more particularly the proper environment in which the greater part of the day and even the night may be passed in the open air, can hardly be exaggerated." It is unfortunate that the printer's art does not admit of variations of emphasis as does the spoken word. Our own disposition would have been to print that paragraph in red ink and in heavy type—anything to attract attention to it and hold it there, for it con-

tains the secret of success or failure in the treatment of tubercular joint lesions.

A method of treating joint lesions and especially tuberculous ones that has of late years come rapidly into prominence is the passive congestion method of Bier. It is briefly considered in the book before us. After mentioning the technic, Whitman continues: "The action of the nervous or passive congestion is, according to Bier, as follows: 1. It increases the formation of fibrous tissue and induces hypertrophy of the bones. 2. It has a bactericidal action in infectious joint disease, notably tuberculosis. 3. It has an absorptive effect on the effused products of disease, and on new formations that check joint motion. 4. It relieves pain and lessens the activity of progressive joint disease."

A hundred pages are devoted to the discussion of "hip disease," this term, as the author hastens to say, being "now limited to tuberculous disease."

Starr on Nervous Diseases. Organic and Functional Diseases. By M. Allen Starr, M.D., Ph.D., LL.D., Professor of Neurology in the College of Physicians and Surgeons, New York; ex-President of the American Neurological Association and of the New York Neurological Society. Second edition, thoroughly revised. Octavo, 824 pages, with 282 engravings and 26 full-page plates. Cloth, \$6.00, net; leather, \$7.00 net. Lea Brothers & Co., Philadelphia and New York, 1907.

The first edition of this book dealt only with the organic diseases of the nervous system. The present edition treats in a lucid and helpful manner of the functional troubles as well. The diseases of the ductless glands such as acromegaly, myxedema and exophthalmic goitre have been omitted; also tetanus and the so-called trophic disorders. We doubt the advisability of these exclusions. These diseases, to be sure, are comprised in works upon general medicine, as the author says, but so are the diseases which Dr. Starr's book treats of and often very well handled, too, in Strumpell's book, for instance. A certain disproportion is noted between certain chapters. Neuritis occupies many pages, while to the chapter on syphilis of the nervous system only three are devoted. There is much to be found in the book in different places on the latter very important subject, but this particular chapter is very much inferior to that contained in Oppenheim's treatise.

It is needless to remark that localization, central and spinal, is fully described. In the therapeutic directions there is no suggestion of vitalism, nor does the author indulge a misleading optimism. This good sense is especially conspicuous in the chapters on hysteria and neurasthenia. We think the practitioner will be as satisfied with Dr. Starr's prescriptions as the nature of the diseases will permit.

We found no mention of cervical ribs, among the causes of disease of the trachial plexus. There are a number of misprints in the index and elsewhere. For Mill's Disease, for instance, the reference in the index is to page 512, but it is not to be found there.

The illustrations are abundant. There are perhaps more pictures after Golgi specimens than are necessary or useful, but many others have been judiciously reproduced from other works.

Insanity Cured by a New Treatment. Details of Twenty-one Cases. By C. W. Luckling, M. D., Birmingham, '07. Cornish Brothers, Ltd. Price 2 shillings, net.

"The insanity written of in this paper is entirely caused by dropped kidney." "The cause of the in-

sanity is clear. It is toxic and does not depend on the degree of displacement." "The daily interference with the elimination of urine and retention in the prolapsed kidney and ureter causes auto intoxication leading to insanity and other disorders of the nervous system." These quotations show the author's view of the etiology of "Insanity." The New Treatment is of course Nephropexy—"suturing up" of the fallen kidney.

In a large public asylum Luckling examined fifty of the inmates on the female side for "dropped kidney"; he found it in fifty per cent of them. "The cases," he says, "suffered chiefly from melancholia, but mania and dementia also existed." We expected to read in the sequel that a series of nephropexies had depleted that asylum, of these fifty per cent, also a private asylum of the 33 per cent of the women whom he found there with prolapsed kidneys, but from these unfortunates the benefit of nephropexy seems to have been withheld, and together with those whose kidneys are where they ought to be, they may be reserved for ovariectomy or tenotomy of the ocular muscles, or relieved of their eyestrain and insanity by fitting with spectacles. The author observes that suicide is remarkably frequent where dropped kidney exists and some of his patients who were too poor to afford the necessary vigilances got away shortly after the operation and drowned themselves.

Sir Frederick Treves had stated that autopsy showed the kidney to be in its place in cases of suicide where symptoms had existed which Luckling would ascribe to displacement of the kidney; but in this our author has had a fourth year's student convict the great Sir Frederick of an error!

"Out of 22 patients operated upon 21 are cured and one relapsed, the operation in this case not being Goelet's." The patients complained of neurasthenic troubles, were depressed and some of them had hypochondriacal and other delusions. Some of them were such as usually recovered without an operation, but others were of long standing. No allowance is made in any case for the effect of operations per se. In one case described under the heading of "Insanity" the operation was reported as a failure three months after, but recovery 12 months after is ascribed to the surgical treatment. It has been recognized for a long time that nervous and hypochondriacal symptoms may be associated with movable kidney, and that some of the patients are relieved after fixation of that organ; and some of Luckling's cases may be admitted as illustrating this relation. But the triumphant tone with which the title of the book proclaims a great therapeutic discovery, is not justified by its contents. The indiscriminating use of the term "Insanity" suggests a lack of caution in reasoning. We do not wonder when he tells us he has met with opposition and that "false statements" have been circulated. Such was ever the fate of the enthusiast. A list of the titles of his publications, filling three pages, which is appended to his book indicates an ability to wage an inky war for his opinions, and the author may yet in a series of Biographic Clinics, à la Gould, prove to us that the woes of Richard Wagner, George Eliot and Thomas Carlyle, were not due to eyestrain, but to dropped kidney, and that spectacles would have been vain, but nephropexy helpful.

A DISCUSSION ON PERINEAL TEARS.*

By John Egerton Cannaday, M. D., Hansford, W. Va.

The author reviews the history of the subject and says: "The literature of the subject is enormous, if not appalling. Innumerable operations have been

proposed and practiced and almost every suture known to man has been tried—all eloquent testimony to the fact that none of the methods are perfect. A perusal of some of the writings on the subject would tend to confuse the mind of the reader with their intricacies, but when shorn of its complexities and reduced to the basic principles of surgery, a perineal tear resolves itself into a comparatively simple matter."

The anatomy of the parts concerned is taken up in full detail, the author believing that a thorough understanding of this part of the subject makes the matter a comparatively simple one to the operator. In speaking of the supports of the pelvic organs, the author says: "A number of widely differing views as to what factors normally enter into the support of the pelvic contents are held by the principal authorities of the world. Some hold that the levator ani, with or without the aid of the other muscles, is the chief power for support. Others ascribe all virtue to the fascia. Some, again, give both muscles and fascia more or less equal credit for accomplishing the work of support between them. Personally, the author believes that the muscles with the fascia act as a composite diaphragm in closing the lower end of the abdominal cavity and in giving support to the pelvic organs. Of the two factors he considers the fascia of major importance; in the anterior abdominal wall we consider the fascia of the utmost importance in the prevention of hernia. The pelvis should not be radically different."

The indications for repair are given and the operation is minutely described. The author shows that the denudation outline is practically that of the capital letter M, the outline of sutures representing the letter Y. The various methods of different operators are described.

The advantages of feeding the patient on minimum amounts of albumen and of locking the bowels for two weeks in the after-treatment of complete tear cases are stated.

AN APPEAL TO THE AMERICAN MEDICAL PROFESSION.

By DR. S. A. KNOFF, New York.

On May 8th, the day following the meeting of the National Association for the Study and Prevention of Tuberculosis, there appeared in the North American, of Philadelphia, a most sensational article by Mr. Richard J. Beamish, according to which, during the discussion of Dr. Flick's report on medication, I was reported to have advised the killing of dying consumptives quickly and painlessly by heavy doses of morphine and to have admitted that it was my daily practice to do so. It was furthermore said in this article that there had been a bitter debate and that the session adjourned in confusion. These false statements were copied by nearly all the newspapers in the United States, were cabled to Europe and made the rounds in the papers and magazines of England and the whole European continent. In spite of explanations and denials I had sent to the Associated Press, in spite of a strong letter written by Dr. George Dock, the presiding officer of the meeting, and sent to the leading medical journals of America, giving the true version of my remarks, the false statement has continued to be published and re-published and commented upon to the great detriment of the Anti-Tuberculosis crusade all over the world. For example: ignorant consumptives in St. Louis, who had read the sensational lie, refused the visit of the nurses sent to them by the Society for the Relief and Prevention of Tuberculosis. The "St. Louis Republic," which published this news item said, "Consumptives, since they read that report, apparently have a dread that the visit of the nurse

*Published in the American Journal of Obstetrics; Author's Abstract.

may mean morphine to end their suffering." It became thus necessary to issue the following statement by order of Prof. Frank Billings, President of the National Association for the Study and Prevention to Tuberculosis:

"Quite apart from the false position in which the speaker was placed and the injury done him, the publication of such a piece of sensationalism can not fail to have a very deleterious effect upon impressionable tuberculosis patients throughout the country and may keep others from seeking needed medical aid."

The following statement made by Prof. George Dock of the University of Michigan, who presided at the meeting at which Dr. Knopf spoke, should preclude all further misunderstanding:

"I heard clearly what Dr. Knopf said. I am sure that I know what he meant, and sure that everybody in the room must have understood what he said. His words could not possibly be converted into the meaning given in the public press. It was perfectly clear that he meant to relieve patients in the last stages. Everybody knows that this prolongs life, while making it very much easier for the patient."

I had hoped that this statement would put a stop to all further comments on and circulation of the sensational falsehood. I am free to confess that I have longed for the time when the lie would die out for in spite of the loyalty manifested by my professional friends during these hours of trial, for which I beg them to accept my most heartfelt thanks, the ordeal had become almost unbearable.

It seems that such a lie dies hard, and from time to time receives a new stimulus from the overzealousness of some physician or layman. Thus, for example, through the courtesy of Dr. George H. Simmons, the Editor of the Journal of the American Medical Association, I received a copy of the Kansas City Journal of last week, containing an editorial under the heading "SHOULD DOCTORS KILL?" from which I quote the following:

"The question whether a physician is justifiable in shortening the life of a patient suffering from some incurable disease by administering anaesthetics was given a fresh impetus recently by the declaration of Dr. S. A. Knopf before the Tuberculosis Congress in Washington advising that consumptives should be given heavy doses of morphine to hasten the end. To the credit of the profession it must be said that physicians generally repudiate the idea as atrocious and a violation of medical ethics. A Chicago physician, Dr. Charles Gilbert Davis, voiced this sentiment, saying, 'A physician who would make a statement of that kind should be taken out and hanged. The profession has not gotten so low that it must commit murder just because it has not yet discovered a cure for some disease. There is nothing incurable under the sun. Just because the cure has not been discovered, that does not mean that it never will.'"

In Dr. Dock's letter above referred to, as well as in the statement authorized by Dr. Frank Billings the absolute falsehood of the respective newspaper report was clearly shown, and it would seem that there was hardly an occasion for Dr. Davis to unburden his feelings for the credit of the lay press.

Equally untrue was the report of the alleged "adjournment in confusion" and the "lively and bitter debate" which followed Dr. Flick's report, condemning the use of morphine and its compound. In refutation of this reflection made by Mr. Beamish on a

body of scientific men composed of many of the leading American physicians, who have devoted their lives to the study and prevention of tuberculosis, permit me to publish for the first time an extract from a letter which was received recently by Dr. Joseph Walsh, the secretary of the section:

"I was present as secretary of the section at which you spoke, and instead of the section breaking up in confusion, as was stated in the newspapers, the section closed in the perfectly regular way, and your statement as generally understood by the medical men, seemed to be generally agreed with."

I beg the medical press of the United States to copy this communication, in the hope that it will help individual members of the profession to refute once for all the inconceivable proposition that any physician true to his calling could possibly propound such a doctrine as shortening the life of any patient entrusted into his care. To the individual members of the profession in this country and abroad I address a personal appeal to embrace every opportunity to disabuse any individual who may labor under the misapprehension that I or anybody else of the American medical profession recommended shortening the lives of consumptives or any others by the administration of chloroform, morphine or similar narcotics. I make this appeal not merely for my own sake, but above all for the sake of truth and for the sake of consumptive sufferers in this and in other countries.

S. A. KNOPF.

ROCKEFELLER INSTITUTE.

The Rockefeller Institute for Medical Research has adopted the following series of titles for its staff: Member, associate member, associate, assistant, fellow and scholar of the Rockefeller Institute, and has made the following list of appointments:

Simon Flexner, member of the Institute and Director of the Laboratories (Pathology). Members of the Institute: S. J. Meltzer (Physiology and Pharmacology), E. L. Opie (Pathology), P. A. Levene (Biological Chemistry); Assistants of the Institute, Hideyo Noguchi (Pathology), John Auer (Physiology), Alexis Carrel (Experimental Surgery), J. W. Jobling (Pathology), Nellie E. Goldthwaite (Chemistry); Fellows, C. M. A. Stine (Biological Chemistry), Donald Van Slyke (Biological Chemistry), Martha Wollstein (Pathology), Maud L. Menten (Pathology), Mabel P. Fitzgerald (Bacteriology), Don R. Joseph (Physiology), Benjamin T. Terry (Protozoology); Scholar, Bertha I. Barker, (Pathology); Fellow, Thomas W. Clarke (Pathology).

Grants to aid special researches have been made to the following: Brown, Robert M., New York; Bunting, C. H., Charlottesville, Va.; Collins, Katherine, New York; Field, Cyrus W., New York; Foster, N. B., New York; Goldthwaite, Joel, Boston; Jackson, Holmes C., Albany; Kendall, Arthur I., New York; Koch, Waldemar, Chicago; MacCallum, W. G., Baltimore; Manwaring, Wilfred H., Bloomington, Ind.; Maury, J. W. D., New York; Novy, F. G., Ann Arbor; Ophuls, W., San Francisco; Pearce, Richard M., Albany; Ricketts, H. T., Chicago; Schulte, Hermann W., New York; Simon, Charles E., Baltimore; Warthin, Alfred S., Ann Arbor; Wood, Francis C., New York.

PURE FOOD COMMISSION NOTES.

By GEORGE H. KRESS, M. D., Secretary, Los Angeles.

The members of the Pure Food Commission, at the risk of being thought somewhat tedious, desire to present in this issue of the JOURNAL the score-cards used in marking dairies. Their excuse for asking this space, is their belief that adequate dairy inspection for California would mean clean milk for the State, and clean milk means many lives saved. The score-cards are, therefore, presented because of the part they indirectly play in the prevention of disease and death.

Both the United States and Los Angeles cards are marked on the scale of 100. The Pure Food Commission will be glad to send copies to interested physicians. The modifications in the Los Angeles card are based on the peculiarities of the Southern California climate.

The face of the United States card is printed to show the method of scoring. The back of the Los Angeles card is printed to show on what basis the inspector gives his points.

Face of the dairy score-card of the United States Department of Agriculture, Bureau of Animal Industry, Dairy Division.

SANITARY INSPECTION OF DAIRIES.

Dairy Score Card.

Owner or lessee of farm:.....
Town:State:
Total No. of cows:.....No. milking.....Quarts of milk produced daily:.....
Product is sold at wholesale—retail. Name and address of dealer to whom shipped:
Permit No.Date of inspection:....., 190....

	SCORE.		Remarks.
	Perfect.	Allowed.	
Cows.			
Condition	2	.....	.....
Health: Outward appearance	3	.....	.....
Comfort	2	.....	.....
Ventilation	4	.....	.....
Cubic space.....	3	.....	.....
Cleanliness	5	.....	.....
Food	2	.....	.....
Water	4	.....	.....
Total	25	.....	Per cent perfect.....
Stables.			
Location	3	.....	.....
Construction	5	.....	.....
Cleanliness	7	.....	.....
Light	5	.....	.....
Stable air	2	.....	.....
Removal of manure.....	2	.....	.....
Stable yard	1	.....	.....
Total	25	.....	Per cent perfect.....
Milk House and Storage.			
Location	2	.....	.....
Construction	2	.....	.....
Equipment	3	.....	.....
Cleanliness	3	.....	.....
Care and cleanliness of utensils	5	.....	.....
Water supply for cleaning..	5	.....	.....
Storing at low temperature..	5	.....	.....
Total	25	.....	Per cent perfect.....
Milking and Handling Milk.			
Cleanliness of milking.....	10	.....	.....
Prompt and efficient cooling.	10	.....	.....
Protection during transpor- tation	5	.....	.....
Total	25	.....	Per cent perfect.....
Total	100	.....	.....

Question 1. Has the herd passed the tuberculin test within a year? Yes. No.
Question 2. Has the water supply been examined for contamination? Yes. No.
Question 3. Is there any case of contagious disease on the farm that is not properly isolated?
Yes. No.
Signed:.....
Inspector.

Note.—If conditions are so exceptionally bad in any particular as to be inadequately expressed by a score of 0 the inspector will write BAD in the column of Remarks, opposite the 0.

D. D. 152—4-4-07—5,000.

8—608

Back of the Dairy Score-Card of Los Angeles Health Department.

DIRECTIONS FOR SCORING.

Herds.

Condition and Healthfulness.—Deduct 2 points if in poor flesh, and 6 points if not tuberculin-tested. 8
Cleanliness.—Clean, 5; Good, 4; Fair, 2; Bad, 0. 5
Water Supply.—If clean and unpolluted, 5; Fair, 3; otherwise, 0 5

Cow Yards.

Drainage.—If well drained, 4; if only fair drainage, 2 4
Floor of Cow Yard.—(a) If solid earth, 3; (b) If free from manure, 2; (c) If free from decaying animal and vegetable matter, 1; (d) If ample room for herd, 1; (e) If hog and calf yard separate, and not less than 50 feet distant from milk house and stables, 1. 8

Stables and Stanchions.—Construction.

(A) Floor.—(a) If cement floor in good condition, 4; (b) If cement floor in fair condition, 2; if cement floor in poor condition, 0; (c) if wood floor in good condition, 3; if wood floor in fair condition, 1 1-2; if wood floor in poor condition, 0 4
(B) Drainage.—If good drainage of stables and stanchions, 2 2
(C) Manure.—If daily removed from stables or stanchions to field, 2; if daily removed from stable or stanchions at least 30 feet, 1; if not daily removed, 0 2
(D) Mangers.—If cement washable mangers without individual partitions, 2; if wood washable mangers without individual partitions, 1. 2
(E) Other Filth.—If no decaying animal or vegetable filth beneath stable or stanchion floors 2. 2
(F) White Washing.—If cow stables and premises whitewashed at least once in 6 months, 1. 1
(G) Covering of Stables.—If well covered stables, 2 2

Milk Houses.

Construction.—Tight, sound floor, and not connected with any other building, (a) well lighted (b), well ventilated and screened (c), 2; (d) if connected with another building under good conditions, 1; otherwise, 0; (e) if no milk house, 0. 2
Equipment.—Hot water for cleaning utensils, (a) 1; cooler, (b) proper pails, (c) and strainers (d), used for no other purpose, 1. 3
Cleanliness.—Interior clean, 5; good condition, 4; medium, 3; fair, 2; poor, 1; bad, 0. 5
Care and Cleanliness of Utensils.—Clean (a), 3; kept in milk house or suitable outside rack (b), 2; otherwise, 0 5
Water Supply.—If pure and clean running water, 5; pure and still water, 3; otherwise, 0. 5

Milking.

Attendants.—Healthy 5
Cleanliness of Milking.—Clean milking suits, milking with clean dry hands, and attention to cleanliness of udder and teats while milking, 10; no special suits, but otherwise clean, (a), 7; deduct 4 points for uncleanly teats (b) and udder (c), and 3 points for uncleanly hands (d). 10

Handling the Milk.

Prompt and Efficient Cooling.—If prompt (a), 5; efficient (b), if 50° (e) or under, 5; if over 50° and not over 55°, 4; if over 55° and not over 60°, 3; if over 60° and not over 70°, 2; if over 70°, 0 10
Storing at Low Temperature.—Same as before. 5
Protection During Transportation to Market.—If thoroughly protected (iced), 5; good protection, 4; partly protected, 2; otherwise, 0. 5

Score.

If total score is 90 or above and each division 85 per cent. perfect or over, the Dairy is **Excellent** (entitled to registry).

If total score is 70 or above and each division 65 per cent. perfect or over, the Dairy is **Fair**.

If total score is 80 or above and each division 75 per cent. perfect or over, the Dairy is **Good**.

If total score is below 70 and any division is below 65 per cent. perfect, the Dairy is **Poor**.

***The letters a, b, c, etc., should be entered on score card to show condition of dairy, and when so entered should always indicate the deficiency.

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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

OCT., 1907.

No. 10

EDITORIAL NOTES.

It is mighty seldom that a man has anything to present to a gathering of medical men which can not be said in ten, or at most, fifteen minutes. Long, tiresome papers are a burden to the flesh of the listener and are of small profit to him. This is said with the next meeting of the State Society in mind and at the suggestion of some members of the Committee on Scientific Work. The reading of endless reports of cases has no place in the program of a learned society. The meat of the paper should be gathered into an abstract which will present the facts, and the tedious details, only useful for reference, comparison or subsequent study, should be published but not read. So, too, with the paper which deals with an elaborate history of some complication, compiled from the already enormous literature on the subject or based upon long quotations from other papers previously read. Such things are entirely out of place at the time of a meeting, though they are occasionally useful for reference. It is to be hoped that the papers at the next meeting of the Society will be short, sharp, sweet and to the point, and that the discussions will in the main follow the papers in these highly-to-be-desired characteristics. There are always those who seem to think it is essential that they have something of praise to say about every paper read. That is quite unnecessary. Some papers are poor and the truth would not hurt the author; it might help him. Some papers present nothing new, and while there might be some question as to their value on a program, there is none as to the valueless discussion which follows and also brings forth nothing new.

There are doubtless lots of physicians scattered about the State who have something to say, of experience or knowledge gained, that would be of profit and interest, and not infrequently they remain silent because others talk and say nothing. A full and free discussion of any topic that will bring out even an additional grain of knowledge, is by no means to be decried; far from it. Such discussions are the very lifeblood of scientific bodies and meetings and are in every way to be encouraged. Let us make a great effort to see that the papers at the next meeting of the Society are short and pithy, and that needless discussion gives place to general, short, crisp discussion of points raised that will bring forth new thoughts or bits of personal experience which will leave a lasting and a profitable impression with the members present.

The JOURNAL has been asked to call the attention of San Francisco physicians to some matters in which the nurses are interested;

PHYSICIANS and, indeed, in which the physicians themselves are quite as much concerned. There exists

a Nurses' Directory which had its beginning shortly after the fire, and which has become more and more important and useful with the passage of time and an understanding of what it means and what a great convenience it is to both physician and nurse. It is controlled and conducted by the Nurses' Association and is for the benefit of the Association's members. The existence of the Directory has greatly simplified the means of communication between doctor and nurse. One of the rules of the institution is that a physician calling up the Directory for the purpose of securing a nurse, must give his name, the name of the patient, and the nature of the ailment. Strange to say, we are advised that, to this very excellent rule, some physicians object. Doubtless the objectors do not stop to think of a few things directly pertinent or they would not object. Nurses are, more or less, specializing. Some prefer to take only surgical, others obstetrical cases; some are peculiarly adapted for the care of children; others have a leaning toward fevers or complications requiring unusually strenuous work. And it is but natural that this should be so and consequently that the nature of the ailment should be known to the head of the Directory who is called upon to supply a nurse. Furthermore, and strange as it may seem to some, nurses are human beings—not angels, except in fiction—and as such have feelings, likes, dislikes and prejudices. Some nurses can not get along with some physicians, any more than some physicians can avoid disliking some nurses; therefore, how foolish it would be, knowing these elemental characteristics of human nature, for the Directory not to require the name of the physician and thus avoid sending a nurse who would not be in accord with the personality of the physician in charge of the patient. This, we confess, seems to us so simple a matter as to make it incredible that anyone could look upon it otherwise than as a quite

necessary measure. What applies to nurses and doctors, applies also to patients; they are also but human, and frequently less amiable and tolerant than even nurses or physicians. Sometimes a nurse, after having had experience with a family, would not again attend a patient in that house; and conversely, some families or patients may not have appreciated the qualities or characteristics of a nurse who has previously been with them and might object to having the same person thrust upon them again. Therefore it seems equally wise that the head of the Directory should know the family into which the nurse is to go and thus, many times, avoid causing an unpleasant mixup between patient and nurse. Quite probably there are nurses' headquarters in places other than San Francisco where the same thing applies and where the same information may be required by the person in charge. On the whole, it seems most distinctly right and proper, and as conserving the best interests of all concerned, that he who would have a nurse should give his name, the name of the patient and the ailment from which the patient is suffering. Let us help the nurses thus much, and incidentally help ourselves and our patients.

The discussion by the San Francisco County Medical Society, at a recent meeting, of the plague situation in that city, points out most markedly the general lack of interest in or attention to the simplest sanitary measures, not alone on the part of the general public, but also by our profession. At the last meeting of the Washington State Medical Association, too, this same thing was very forcefully commented on by Drs. T. J. Sullivan, of Butte, Montana, and Philip Mills Jones, of San Francisco. Dr. Sullivan dwelt particularly upon the milk and food supply, but also touched upon sanitation in general and professional apathy in regard thereto. In San Francisco, it is encouraging to note that the new Board of Health, a most efficient and active body, has taken vigorous measures to enforce the many excellent regulations in regard to screening food, destroying refuse, etc., and doubtless much good will result from its efforts in these directions, as well as from its campaign against rats. But such active work at particular times should not be necessary. If we, as physicians, and particularly as organized bodies of physicians (county medical societies) did our full duty and properly educated first our own selves and then the public on the needs of the community in the matter of proper sanitation, our cities and towns would be clean all the time and spasmodic cleaning-up spells would be unknown. If we are not greatly mistaken, there is not, in the whole length and breadth of this land, a single school where sanitation is taught and where competent sanitarians are trained. Contrast that condition with England, for instance, where there are a number of schools where the instruction is of the best and where degrees in sanitary science are conferred. True, we have now a Pure Food

Commission of the State Society, and we understand that it is doing splendid work; but that is only a part of the work that should be done everywhere. Each and every county medical society should be the real sanitary commission for that county, if not indeed the actual County Board of Health; and it should command the respect and support of the citizens of the county. This is not a dream; it is no purely theoretical construction of the imagination; it is a practical possibility and it is our duty to strive persistently until it has been brought about. Who can guide the community in public health and sanitary matters, except the physician? But, it is objected, the people oppose our efforts to help them; they fight our work for their own protection. That is, indeed, too true, in many quarters. But why? Simply because they do not know any better; we have not educated them to the realization of what our work for them means; of what a clean town means; of what an uninfected water supply means, not alone in saving life, but in saving dollars.

A very pertinent illustration of the purely commercial and material side of this question has very recently been furnished by a community in one of the northern counties where a number of cases of typhoid broke out.

DIRECT

ILLUSTRATION.

The community became panicky and sent to the city for an expert to come and see where the trouble was. It took him only a very short time to find that the cases all originated in families supplied by one dairy, and that the dairyman was getting his water from a source infected by a privy used by a camping party, in which party had been a young man recovering from a long illness. Had there been any general sanitary control in this community its citizens would have saved a great deal of money, for the fee paid the expert alone amounted to a sum expressed in four figures. The plague in San Francisco is another illustration. The city and the national governments are spending many thousands of dollars each month in an effort to counteract the negligence of past years. A modest sum intelligently expended by an *honest and non-political Board of Health* continuously would keep the city clean and render it almost immune to infection. Fortunately for the whole State, and indeed for the country, the Marine Hospital Service and an honest and intelligent Board of Health are now working together and have a firm grasp of the situation; there is no danger of a plague epidemic, though there will undoubtedly be cases reported for a number of months to come. That is all right so far as San Francisco is concerned, but what of other sections in the State? What of the counties about the bay? Is there one of them that has taken the pains to find out whether the ground squirrels have been plague infected? Not one, and yet there is every reason to believe that these animals, in at least two of the bay counties, have been infected with plague for some few years, and that cases of plague in human beings have occurred in which the infection was traceable

to this source. Yet not a dollar has been expended to ascertain this exceedingly important fact or to combat neglected conditions which at any time may be serious if not alarming. Nor are we of California alone guilty of this neglect of sanitation and interest in it. In Portland and Seattle there has been much talk of the plague in San Francisco, and of putting rat guards on the lines of docked vessels. Yet a recent examination of the water fronts of these two cities failed to disclose a single rat guard, and any seaport is at any time liable to infection by bubonic plague. Furthermore, at the recent meeting of the Washington State Medical Association it was reported that an attempt to secure from the last legislature of that state laws giving the State Board of Health control of the various water supplies, had been defeated by corporate interests. Could any corporate interest defeat such a wise measure if the entire people of the State, educated by their physicians, knew how tremendously important that proposed legislation was to each and every family in the state? We may be oversanguine, but we think not.

Merely to notify the Board of Supervisors that there is certain danger somewhere, or to introduce a good bill into a legislature, will do

HOW TO DO IT. Nothing. So long as legislators are ignorant of the needs of the people for health protection, or so long as they

think their constituents are ignorant of these things, so long will they never be done. Therefore, it is vitally necessary, if we are to fulfill our obligations to the public, that we manifest our existence by getting interested in politics so far as educating the voters on these matters may be concerned. Let all the voters in your county, for instance, understand exactly what control of the water supply by the State Board of Health means, and what an epidemic which may occur at any time without such control, will mean to them, and it is extremely doubtful that any corporate interests can prevent the desired legislation. We can not avoid political interest in the full performance of our civic and professional duties. Nor need such political interest be at all objectionable or distasteful. The will of the people is, after all is said and done, supreme, and if the people are once aroused on any question, the legislator, who always has his ear pretty close to the ground, will heed the noise and act accordingly. If there is no noise, if there is no voice crying in the wilderness, you may be quite sure that sanitary measures, particularly where money is to be appropriated, will be pocketed in committee or defeated. Experience has shown that legislators are most anxious to learn and most ready to listen to advice *before* they are nominated or elected. It is, perhaps, not so singular that this should be so; but it is so, nevertheless. Therefore, before the aspirant is nominated, or before he is elected, it is well to talk with him about these matters of public health and show him what they mean to his community. It is also well to let the community know these things, so

that they, too, may watch the legislative history of their representatives. And there is no reason for waiting till the last minute. You know now at least some one or more men who will probably aspire to nomination for the next legislature. Show them what dirty, filthy dairies mean, and where their own town needs cleaning up. Discuss with them the spread of contagion by flies and other vermin and the consequent necessity for screening food on sale. If each one of us took up this question and did a little work with our prospective politicians, in a year or two we would have the whole people so educated that they would assuredly act upon such matters when presented to them. It is encouraging to know that in many sections of this state this work—this purely altruistic educational work—is being done all the time. Some progress has been made, but there remains an infinite amount of work as yet untouched. In not a few counties meetings have been held at which citizens have been invited to attend and participate in discussing some of these topics of general interest; such meetings should be held at frequent intervals by every county medical society, not alone in this state, but in every state in the union. Too long have we left our ten talents buried; do you not agree that it is time we dug them up and used them for the public welfare?

There are so many anomalous things in the world that it would be a waste of time, if nothing more,

A SINGULAR INCONSISTENCY. to attempt even to mention them all, let alone dilate upon them or use adjectives and exclamation points. Some

there are, however, which even a great patience, grown of tolerant philosophy, can not entirely overlook or avoid commenting upon. One of these is the most curiously astonishing attitude of the homeopathic (?) medical (?) press of this country toward the work of the American Medical Association in its efforts to clean up the proprietary Augean stable. One would naturally suppose that, as practically all nostrums and proprietaries are compounded—or may be supposed to be compounded—of remedies undiluted, and as they are obviously intended for use in ways that are not recommended by the strict followers of Hahnemann, that the homeopathic press would take little if any interest in the matter. If any interest should be displayed, one would naturally assume that it would take the form of gentle ridicule that the followers of the regular school should have, for so long, allowed themselves to be fooled and duped. This, it seems to us, would be about the natural line of thought of any one considering the matter from the purely theoretical standpoint. But it is far from the case. Almost without exception, the homeopathic (?) medical (?) press has reviled and attacked the Council on Pharmacy and Chemistry and the Association itself for mixing up in this matter and demanding in the name of the medical profession, that the physician know at least what he is putting into his pa-

tient, and how much of it. The simple-minded observer might be puzzled when confronted with this peculiarly antagonistic attitude toward a work which, he would suppose, might justly be regarded as *none of the homeopath's business*. But only the very simple-minded would be so led astray; the student of the signs of the times would look through the advertising pages of these homeopathic (?) medical (?) journals and then he would understand the matter. There is one, for instance, published in Detroit and bearing the name of *The Medical Counselor*. It ridicules the work of the Association and, possibly in the same spirit of sarcasm which chose its own name, asks if the medical profession needs guardians? The mere facts which have been brought to light as a result of the work of the Council are sufficient answer to that query; we certainly do need something to guard us from the rapacity, dishonesty and fraud of the nostrum manufacturer. But let us examine the advertising pages of this "*Counselor*," whose reading pages are largely given up to a very strong plea to homeopaths to be and remain such and practice homeopathy. Here we find many an old friend. Antiphlogistine, pepto-mangan, sal hepatica, antikamnia, Fellow's hypophosphites, vin Mariani, glycozone and meatox. Presumably, this homeopathic (?) medical (?) journal circulates entirely among the followers of that school, and the advertisements will therefore appeal only to them. *But are these nostrums used by the homeopathic brethren?* Can it be that the homeopathic brethren have been as successfully hypnotized into using, say antikamnia, as have so many of the deluded regulars? Shades of Hahnemann preserve us! Where are we at? Where are we coming to? If the rank nostrum advertisements were withdrawn from this homeopathic (?) medical (?) journal, its publication would be a matter of some expense, we imagine, to the owner. Is there any explanation of his wrath, of the invective directed against the American Medical Association for showing up these nostrums in their true colors, and thus indicating his own position in accepting the dirty dollars of the nostrum advertisers who buy his pages? This is just one of the deliciously anomalous situations which tend to add to the gayety of nations.

Not only are the nostrum-subsidized (self-styled "independent," medical (?) journals, and the homeopathic (?) medical (?) journals attacking the American Medical Association for its tremendously important fight against the nostrum abuse in medicine, but we find not a few of the publications which are supposed to represent the real interests of the pharmacist allied with the Proprietary Association of America and the various subsidized press in making similar attacks. The good Lord, He knows that this present fight, when it shall have resulted in cleaning out the worthless and lying nostrums, will benefit the pharmacist quite as much as it will the physician—and the sick man. The campaign of education amongst physicians is alone a

blessing to the pharmacist. But, of course, the man who is after dollars must protect his pocket in every way he can, even by lying or fomenting trouble and discord. All this is apropos of a deliberate lie which appeared in an editorial in the *Western Druggist* for September, 1907. The *Western Druggist*, it may be said in passing, is one of the largest drug journals in the country and infests the city of Chicago with its home. Dr. McCormack, in his report as organizer of the A. M. A., stated that he had found, in many states, a strong lobby representing the National Association of Retail Druggists and backing legislation adverse to the best interests of the profession and the people and opposing pure food legislation. We quote the following comment on this from the *Western Druggist*:

"After making his statement in regard to the N. A. R. D., attempting to influence legislation (the fact that his statement was untrue has nothing to do with the question at issue) he adds * * *

That comment in parentheses is a straight lie. When the legislature in this state was in session in 1905, several bills referring to pure foods and drugs were introduced. The druggists did not like them. The agent of the N. A. R. D., by name Cheatham, in order to distract the attention of physicians from these bills and force them to cease giving attention to them, had prepared and introduced a bill, absolutely emasculating the law regulating the practice of medicine in this state, and so framed as to permit any quack to practice as he might will. This the JOURNAL commented on at the time (April, 1905, page 101). The *N. A. R. D. Notes*, the publication of the National Association of Retail Druggists, printed a highly commendatory article on this piece of dirty work by its agent, Cheatham, and closed its boastful article with the following quotation:

"We commend this bill [the bill emasculating the medical practice act. Ed.] to the consideration of the druggists of every state that have legislative fights on their hands and counsel them that at times it is wise and necessary to 'fight fire with fire.'"

Just compare this statement with that in the *Western Druggist* and then say whether that publication has not been convicted a liar out of the official publication (*N. A. R. D. Notes*) of the very organization it is endeavoring to put at enmity with the American Medical Association!

From a newspaper item we note that the mails are to be weighed for thirty days, beginning October 1st. This is done from time to time in order to fix the compensation to be paid the railway companies for transporting the mails. At this time, we are told, the weighing is to be done to determine the weight per month per car, and is not the usual quadrennial weighing, which is done by districts. In the Jan-

**TRUTH?
NIT!**

Association for its tremendously important fight against the nostrum abuse in

**RAILROAD
MAIL GRAFT.**

uary issue, the JOURNAL discussed the matter and pointed out the well-known fact that through the aid and assistance of complacent congressmen, the U. S. Government is mulcted of about \$30,000,000 annually, which sum is overcharged by the railroads. If the roads received for carrying mail matter exactly what they receive for identical hauls of express matter, Uncle Sam would save thirty million dollars a year. This is bad enough, in all conscience, but it is not the limit of petty crime to which our "honorable" congressional representatives, the servants of the corporations, have gone. For years almost without number, it has been a notorious scandal that during the time when the government mail weighing was in progress, tons of public documents, seeds, speeches about matters in which nobody is interested, and indeed any and every old thing that may be franked, and even, sometimes, matter on which postage is paid, is sent through the mails, merely to increase the weight and thus increase beyond an honest limit the amount which the government shall pay to the railroads. Watch out, during this month of October, and see whether your very kind and thoughtful representatives in Congress do not send you, without your solicitation, public documents, seeds, etc., that you do not want and which but help the railroads to rob the country. In the January JOURNAL this subject was touched upon, and we then said:

"In one month when the mails were being weighed, a single physician in San Francisco was favored with three sacks of government publications, weighing probably two hundred pounds."

If you are gratuitously and unaskingly presented with any such matter during this month of October, just remember the reason for it—and see that you let your thoughtful representative in Congress know that you know it. There is really no remedy quite so effective, in the treatment of crooked or distorted legislators, as letting *them* know that *you* know exactly all about it, and why.

INFANT FEEDING.*

By LANGLEY PORTER, M. D., San Francisco.

The problem of infant nutrition is largely one of physiological chemistry, and too often we approach the subject without grasping the extent and complication of its equation. Some of the terms are obscure and others seem insignificant and are easily overlooked, the more so, because we are prone to forget that digestion is but a small part of the nutritive cycle and that it must fail if utilization of the digesta is incomplete or if the food contains fewer nutritive units than the child's economy demands.

Thanks to the Munich school of physiologists, we have fundamental data that make the accurate determination of nutritive demands an easy matter. We are fortunate, too, in that the simple com-

position of milk renders the task of determining its caloric value light. Few today doubt that cow's milk, though imperfect, is the most suitable basis for nutritive mixtures, nor that a knowledge of the principles of Rotch's percentage feeding plan is as essential to the prescriber of foods as is a knowledge of weights and measures to the prescription writer. However, percentage modifications were designed primarily to meet the exigencies of digestion. Built up from cow's milk in elaborate imitation of mother's milk, they fail to reproduce the essentials and have rarely brought full satisfaction to those who use them. Of late there has been a tendency to take up the Continental system, which proposes that we shall determine the food value for infants as we do for adults, in the only accurate way, by a consideration of caloric values. Some of the recent advocates of this system are amusing; they plead for its adoption as though they had found a panacea for all of childhood's ills. One author in particular lectures American pediatricists for their stiff-necked adherence to the outworn percentage plan, which according to the sapient writer, no European pediatricist would deign to consider. Such papers show a failure to grasp the principles underlying either plan; for the two are in no sense conflicting, on the contrary they are complementary.

This paper is an attempt to show: 1—That the percentage plan alone cannot always be relied upon; 2—That the caloric plan, alone, cannot always be relied upon; 3—That the best results in infant feeding are to be had by a judicious combination of the two plans; that is to say, by determining the needs of the infant in calories and presenting a food containing the equivalent number of calories with a percentage composition suited to the digestive capacity of the particular infant.

On a separate sheet which has been distributed I have attempted to give a simple method for arriving at percentages in terms of dilution and for determining the caloric value of percentage mixtures. The advantages of the percentage plan are: 1—It makes quantitative accuracy possible; 2—It leads to the consideration of the relative digestibility of fats, carbo-hydrates and proteids; 3—It tends to impress the necessity of regular feeding upon the mother; 4—It tends to impress the value of cleanliness upon the mother, and therefore its educative value is great.

The advantages of the caloric system are: 1—It informs us of the food necessities per pound of child; 2—It informs us that the necessities of children of the same weight differ; thin children lose more heat and need more food than fat ones, quiet or sick children lose less heat and need less food; 3—It informs us in exact terms of the nutritive value of foods and enables us to allow by increasing the caloric value of the other food ingredients, for the fact that the digestion of cow's milk albumen takes more energy than the digestion of the albumen of human milk.

The disadvantages of the caloric method are: 1—It takes no cognizance of digestion. A mixture

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

of cow's milk of proper caloric value may be utterly indigestible. Such a mixture would demand readjustment of percentage composition in order to maintain the child in health; 2—It is essentially a doctor's method and has little educative value for the mother as it is a matter of applied physiology; 3—It gives no guide to the proteid or fat necessities of the child. A child at six months needs approximately 14 grammes of proteid, 30 grammes of fat and 59 grammes of carbo-hydrate, amounts which properly breast-fed children of that age receive in 24 hours.

The chief disadvantage of the percentage method is its failure to provide a definite measure for nutritive as opposed to digestive needs. Most of its minor disadvantages are really not inherent in the method, but are abuses of it. The mathematical minded pediatricist has walled it about with unnecessary formulæ till too often it has come to appear a problem in higher mathematics. Then, too, the ease with which proportions of ingredients can be varied has led many astray. With their minds fixed only on increase or decrease of percentage composition they have overlooked the fact that there are many causes for curdy stools other than too high proteid concentration—a matter I shall discuss more fully later.

The advantages of the combined percentage and caloric methods are: 1—It considers both the digestive capacity and the nutritive needs; 2—It is simple; 3—It is flexible;—one can lessen the percentage of, say proteid, to meet the emergencies of digestion and increase the percentage of sugar to a degree that will exactly supply the calories lost by the abstraction of the casein; 4—It is accurate. We have but to remember that a child will lose weight on a daily ration that supplies less than 30 calories to the pound; that in the first three months a normal plump baby should have at least 45 calories per pound; in its second three months 40; the second half year 36. Also it is important to recall that an atrophic baby will require food to supply daily 50 calories per pound.

The work of Budin and Variot and Levin has shown us that clean milk can be fed in very high concentration provided that the caloric needs of the infant are considered and that not much more milk is fed than will supply these needs. For instance, a six months old child, taking its litre of milk (equal to about 580 calories) in five feedings during the 24 hours, will digest it equally well whether it be given in 5½ ounce feedings of straight milk or eight ounce feedings of 50 per cent dilution. This work has demonstrated that from 2¾ to 3½ per cent of proteid in mixtures made from sterile milk is tolerated in France by even young infants; then why is it that in this country we have difficulty in getting babies to digest ¾ to 1½ per cent proteid? Why do we so frequently find curdy stools passed by children who are taking such low proteid concentrations? There are very many reasons, more than we have time to discuss. The commonest are: 1—Unclean milk; 2—Interference with

proteid digestion by fat; 3—A fat or carbo-hydrate food content which is insufficient to provide proper digestive energy and heat. This is especially the case in wasted babies; 4—Such excess of fat starch, or, rarely, sugar as to produce indigestion; 5—An insufficiency of sodium salts in the mixture. (Rapid feeding and the presence of preservatives in milk.) I cannot speak for other cities of this State, but it is a reflection on the intelligence of San Francisco that there it is practically impossible to obtain clean milk. Examination of samples from various dairies has in no instance yielded less than one million bacteria to the cubic centimeter. More often a million and a half have been found and in a number of instances the bacteria of fecal contamination have showed exceedingly high. The conditions of milk delivery, too, are vicious; open wagons and dirty streets offering every facility for infection. Moreover, the average time between milking and delivery is eighteen hours. To this must be added another eight hours' delay for those consumers who have to buy their milk from groceries, bakeries and small retailers. The rapidly increasing acidity of contaminated milk is a well established fact which coupled with what we know of the action of acid on casein will many times explain the appearance of curds in the stools and malnutrition in the infant.

The work of Hart and Van Slyke has shown the casein of milk to exist as a loose chemical compound with calcium, called calcium casein, which on entering the stomach is modified by renin to become calcium paracasein, what we in homely phrase call junket. The difference between the two bodies is probably a physical one only. This junket or calcium paracasein, under the influence of a small amount of free HCl in the stomach, loses its calcium and becomes free paracasein. A still further amount of free HCl forms an acid compound of paracasein, paracasein hydrochloride by name, and these paracasein compounds are in the inverse order physically unstable and correspondingly digestible. On the other hand when, as in unclean milk, an acid is present before contact with the renin, some of the casein unites with the acid (in this case lactic) to leave a free casein. This casein is tougher and less digestible than paracasein, and when this indigestible substance enters the stomach it unites with the free HCl to form tough leathery masses of casein hydrochloride which are not infrequently seen in the vomitus of babies but which more often pass into the intestine where they are as indigestible irritants and finally appear in the stool as curds. Clinically of course, in such cases it would be an error to assume a too great proteid concentration as the cause of these curds or to further dilute the milk until after an investigation and demonstration of its cleanliness or uncleanliness. And yet this is one of the most common errors to which we who feed infants are liable.

The difficulties which may follow the indigestion of fats are too varied and com-

plex to admit of complete discussion. The differences between the fat of human and of cow's milk, chemical and physical, quantitative and qualitative, are marked; and to obtain a mixture of cow's milk in which the fats will be in proper proportion and at the same time be digestible is extremely difficult. Within the infant body tissues rich in fat are being built up—bone marrow, nervous system and the subcutaneous fat which is so essential to prevent heat loss through radiation. The infant then demands at least 2 per cent of fat in order to maintain its healthy growth. Chemically, cow's milk fat contains much less olein and much less soluble fatty acids than human milk, while its phosphorus containing fat is only half so great as in the human variety. Because of mechanical differences chiefly through its high melting point, and because it inhibits the secretion of hydrochloric acid, stomachic digestion is interfered with and so proteid curds may appear in the stools. Some authors call these fatty, but Shaw of Montreal has shown by analysis that they contain only twenty per cent of fat and that this twenty per cent is distributed on the outside of the masses, the interior being undigested proteid.

Holt has called attention to what is now well known as "a scrambled egg stool," which is voided a variable number of times daily and contains in addition to mucus, bile and a very high percentage of fat, undigested proteids. This is simply such a stool as is caused by any irritant purgative. On investigation, it has invariably been shown that the child so affected was ingesting an inordinate amount of fat; and when this error had been rectified the condition was at once ameliorated. To a less degree a correct percentage of milk fat which had become stale and undergone some bacterial hydrolysis will produce the same effect. So we may have proteid curds in the stools due either to the mechanical or chemical action of fat in the food, and we would be no more justified in reducing the proteid here without further investigation than we would have been in the case of unclean milk. In the first instance the change to another milk is indicated; with no improvement or when the chemical effect of fats has been shown to be the cause of the trouble, a decrease in the fat percentage is indicated. Here the caloric plan comes to our aid, for by a few moments' work we are enabled to calculate a mixture in which the carbohydrates will supply a number of calories equal to those we have abstracted by reducing the fat percentage. The sugars are so uniformly utilized that it makes little difference whether we use cane, milk or malt sugar in our mixtures. My clinical experience is that cane sugar is more generally useful than milk or malt sugar, except in atrophics when malt sugar is undoubtedly the best so long as it is tolerated. Unfortunately it often leads to diarrhea and may, therefore, have to be discontinued. Milk sugar I only use in those cases in which cane sugar in percentages below five leads to loose green acid excoriating stools. Dextrins afford a carbohydrate source of

energy easily digestible and entirely available and may be cheaply prepared at home, by browning domestic flours. So made, they carry small percentages of vegetable proteids of which we must take cognizance. Most of the popular proprietary foods are largely starch, malt sugar or dextrins with or without dried milk. They are objectionable chiefly because they are expensive and are dishonestly advertised. They have no advantage over sugar or cereal gruels combined with cow's milk except their convenience, which is doubtful, and any physician who prescribes them is doing himself and his profession a disservice.

Chapin has shown that it is easy to determine the percentage composition of gruels and it follows that it is equally easy to find their equivalent caloric values. In conclusion I would say that, thanks above all to Chapin, we have a simple method of preparing percentage mixtures. Armed with a bottle of milk and a Chapin dipper, the most stupid woman cannot fail if properly directed, to prepare sufficiently accurate mixtures. Chapin's book is accessible to every one and should be the infant feeder's bible. I will recall to you, that he uses top milk diluted with sugar water or gruel.

On the accompanying leaflet I have shown that the same percentages of proteid are always present in the same dilutions of a standard milk and that the proportion of proteid may be accurately and conveniently expressed in terms of dilution as of percentage. You will notice that a mixture 1-7 milk equals approximately $\frac{1}{2}$ per cent proteid. This is the most useful dilution to use when beginning substitute feeding. The concentration of the food should then be rapidly increased until the nutritive needs of the child, *plus the extra work necessary to digest the foreign albumen of cow's milk*, are fully met.

In practice the dilutions best tolerated are 1 to 3 at two months; 1 to 2 at four to five months; 1 to 1 at six months; 2 to 1 at nine months. By using the top milk, the fat percentages can be readily varied while the proteid percentage is maintained. It is a simple matter if we find fat too high to order more milk dipped off the bottle.

One class of ingredients essential to any nutritive mixture, the salines, we cannot measure in calories. While we know that they are essential to the utilization of proteids and for the building of blood, bone and muscle, we are ignorant of the percentages in which they are most useful. However, there is one helpful fact, developed by Hart and Van Slyke; namely, their demonstration that casein and paracasein compounds are soluble in dilute sodium-chloride solution. For many years clinicians have known that the addition of common salt (a drachm to 20 ounces of nutritive mixture) renders milk curd much more friable and digestible. (Jacobi and Eustace Smith.) So efficient is this simple maneuver that since I have been using it, I have failed to find the child who could not readily digest cow's milk mixtures, *provided they were made from clean milk*, and presented proper caloric values and percentage proportions.

If the views of Englander prove to be correct (which is doubtful) the citrating of milk warmly advocated by Poynton, Shaw and Cotton, (which I used for a number of years following Poynton's original recommendation and abandoned) is in effect but the addition of sodium chlorides to the digesting food. Englander thinks that the citrate of soda reacts with the hydrochloric acid in the stomach and so produces sodium chloride. Chapin believes that the citrate prevents clotting by the renin in the stomach and throws the work of digestion entirely on the intestine. This is probably the true view as we know that the citrates reduce the ionization of calcium and therefore its chemical activity, and it is a proven fact that the activity of calcium is essential to renin action.

To sum up then, successful infant feeding depends on: 1—Clean milk. 2—A simple modification plan which we have ready to hand in Chapin's top milk scheme. 3—A control of digestion through an understanding and application of the percentage proportion plan. 4—A thorough grasp of the infant's nutritive needs measured in calories. 5—An application of the laws of hygiene to the infant's environment.

A Simple Method of Computing, Approximately, Percentages of Proteid, Fat or Carbohydrate in Milk Mixtures, Based on Analysis of San Francisco Milk.

	Whole Milk.	Top 9 oz. dipped from 1 quart after 4 hours' standing.	Top 15 oz. Same Conditions.	Top 20 oz. Same Conditions.
Proteid	3.5%	3.5%	3.5%	3.5%
Fat	3.4%	10%	7%	5%

Fat values of all milks should be known before beginning their use.

To find % of proteid in any dilution divide % of proteid in whole milk by the denominator of the fraction representing the proportion of milk in mixture—i. e., in a mixture $\frac{1}{8}$ milk divide $\frac{3.5}{8} = .44\%$ proteid.

A dilution of 1 to 6 = 1-7 milk; proteid % = $\frac{3.5}{7} = 5\%$ proteid in mixture.

A dilution of 1 to 5 = 1-6 milk; proteid % = $\frac{3.5}{6} = 6\%$ proteid in mixture.

A dilution of 1 to 4 = 1-5 milk; proteid % = $\frac{3.5}{5} = 7\%$ proteid in mixture. And so on.

To find % of fat in any dilution of milk, divide % of fat in milk used by denominator of fraction representing proportion of milk in mixture. With 9 oz. top milk containing 10% fat.

1-7 milk = $\frac{10}{7} = 1.4\%$; 1-5 milk = $\frac{10}{5} = 2\%$; 1-3 milk = $\frac{10}{3} = 3.3\%$

3 to 3½% is the maximum concentration of fat desirable. When this is reached with 9 oz. milk change to 15 oz. top milk.

15 oz. milk = 7% fat; 1-3 milk = $\frac{7}{3} = 2.3$.

20 oz. milk — 2-3 milk = 5% $\times \frac{2}{3} = \frac{10}{3} = 3.3\%$ fat.

Sugar per cents in dilution are practically the same as proteid.

1 oz. of sugar to 20 oz. of mixture = 5% sugar; with a dilution of 1 to 5 sugar = .7, add 5% or any other % required.

To Compute Food Values of Percentage Mixtures.

(1) A calorie is the amount of heat necessary to raise 1 kilogram (2 1-5 pounds) of water through 1° centigrade.

(2) A child during the first three months needs 40 calories per pound per day; in the second three months, 36 to 38 calories; and in the second half year, 30 to 35 calories.

(3) During the first three months a child will lose weight if supplied with less than 30 calories per pound per day.

(4) 1 gram of animal proteid = 4.1 calories.

1 gram of carbohydrate = 4.1 calories.

1 gram of fat = 9.3 calories.

(5) 1000 grams = 1 litre = a 1% solution = 10 grams to litre.

(6) 29.51 grams = 1 oz. \therefore 1 litre = in oz. $\frac{1000}{29.51}$ say 33.93 oz. = 34 oz. to litre.

Assume a modified milk, containing proteid 1¼%, carbohydrate 5%, fat 3%—one litre of such a mixture would contain:

Carbohydrate 5 \times 10 = 50 grams.

Proteid 1¼ \times 10 = 12½ grams.

Fat 3 \times 10 = 30 grams.

50 grams of C. H. = in calories 50 \times 4.1 = 205 calories.

12½ grams of proteid = in calories 12½ \times 4.1 = 50 calories.

30 grams of fat = in calories 30 \times 9.3 = 279 calories.

Food value of 1 litre of the mixture.....534 calories.

To find what daily amount of the above mixture will supply the nutritive needs of a normal 15-pound baby five to six months old:

Calories needs per pound per day = 38.

\times baby's weight in pounds = 15 = 15 \times 38 = 570.

570 calories needed per day.

1 litre of the mixture gives 534 calories, or 36 calories short of enough for a 15-lb child.

If 34 oz. = 1 litre, and 1 litre = 534 calories, the calories in 1 oz. will = $\frac{534}{34} = 15.7$ calories to each oz.

Then calories needed by child 570 divided by calories in 1 oz. of the mixture 15.7 = $\frac{570}{15.7} = 36$ 1-3

oz.—amount of this mixture required daily by child.

Practically 570 = 36—or 6 daily bottles of 6 oz. each.

Discussion.

Dr. Blum, San Francisco: We find in practice that the individual is not in all cases ready and prepared to handle the quantity of food that it should handle were it a normal child, and these are really the children which the pediatricists get to feed. This throws us back to the original guide which we have, the individual patient and examination, as referred to by Dr. Porter, of the stools, from which we must draw our conclusions irrespective of any theory. The second point to be touched upon is the hardest for all of us, and that is the uncleanness of the milk. It is a fact that the milk contains not only bacteria of various kinds, but gross particles of dirt. Any one using a centrifuge will find plenty of dirt. The germs which are found vary in San Francisco, and each year in the months of August and September it has been my lot to find certain cases of streptococcus. I found ten cases in the month of September. The practical point which we have to meet is how to overcome that, and it throws us back to either one of two methods: First, boiling the milk, and, second, the addition of antiseptics. Another point of importance is the time of examining cow's milk for the bacterial content. We speak of the milk containing 1,000,000 bacteria or 10,000 bacteria, and we receive literature on this subject speaking of the tests and of the excellence of certain dairies, but they usually do not state how long after the milk was drawn these tests were made nor at what temperature. This is of the most extreme importance, for we know that milk examined perhaps one hour after being drawn contains a few thousand bacteria, and if kept at a temperature of 75° for thirty-six hours it will contain something between 10,000,000 and 12,000,000 bacteria.

Dr. A. B. Spalding, San Francisco: In discussing this paper I think there are two points to be taken into consideration in regard to the feeding of infants, and those are whether you are feeding a sick or a well baby, and whether the family is taking clean milk or contaminated milk. I have had quite a little experience with the Milk Commission in San Francisco, and I will say with regard to the Oakland Milk Commission that they have succeeded in carrying out their rules and plans and have had very good milk for quite a length of time, and also the Los Angeles people. In treating infants it makes a great difference whether you are dealing with poor milk or good milk. I have seen several cases do poorly on milk in San Francisco, and on sending them to the country the good results are almost immediate. If we start with a well baby it is easy to keep it well with common sense and little formulae. The idea of reading formulae over is apt to be very confusing. If we are dealing with well babies a simple formula is all that we require, and if we are dealing with sick babies very little feeding is necessary at all.

Dr. E. N. Ewer, Oakland: The physicians of Oakland had plenty of experience in feeding babies good milk. They have had sanitary dairies which produce good milk. Two years ago a committee was appointed in the Alameda Medical Association and Home Club of Oakland and Health Department to draw up clean milk ordinances. It limits the bacteria content to 100,000 colonies in summer and 75,000 in winter. The result is interesting. There are not over 20% in our samples of milk where the bacterial content is over 100,000. With regard to the newspapers and the Board of Health, about a year ago two inspectors came over and investigated that dairy and published very adverse reports concerning it, and the principal criticism was the fact that the troughs from which the cows drank contained dirty water.

Dr. Geo. H. Hare, Fresno: I am pleased with the progress toward clean milk. The point is that this

whole question with regard to purity of food lies more largely with the attitude of our profession than any other factor. I believe that were the medical profession to occupy the place it ought to we would not hear such disgraceful reports. Two years ago the little town of Fresno appointed a Commission which took hold of the milk question and brought it to a working point, and any dairy with a bacterial content above 50,000 had its license removed. This worked and worked successfully. Dr. Porter gave a preference to cane sugar over any other form of sugar. I could not endorse this and would like him to explain his statement and why it is better.

Dr. Charlotte Baker, San Diego: I think it is important to give the mothers better directions as to the feeding of the infant. We often give her directions as to how the child should be fed at three months and six months, etc., but I think it is better to tell her to weigh the baby and feed it in proportion to its weight.

Dr. Thomas McCleave, Berkeley: I think that if a great deal of bad work has been done in the feeding of babies the profession is largely responsible. I think we are responsible for the wide spread of patent foods. Then we leave a baby to the mother as to how it should be fed. We often see the most atrocious things being done on the advice of the physician, or neglect of the physician. Formulas scare the mothers off. They should be put down in the form of prescriptions and given to the mother. Dr. Porter discusses only the artificial feeding of babies. I think every effort should be made to make a mother nurse a child. I take every effort to correct the mother's milk, and I am surprised how much can be done in apparently hopeless cases to bring her to the point where she can nurse that baby. There is too much carelessness in permitting women to cease nursing their babies. It is necessary to study children also as to the composition of the food. Dr. Porter spoke of the influence of fat on proteid digestion. It is a point to be emphasized. Most of the profession are ignorant of it. If a proper study is made you will find the fat not being digested, and the reason the proteid is not being digested is because it is covered with undigested fat. As to the question of sodium citrate vs. sodium chloride, I have made a careful study in addition to the milk formulas and am much interested. My experience has been that of Dr. Porter that there is no advantage in the use of sodium citrate over the sodium chloride. Sodium chloride is just as effective.

Dr. Porter, San Francisco: I am glad to find so much interest in this subject. With regard to the question of boiling milk, in San Francisco, I agree that we have to boil it sometimes several times. As to the growth of bacteria, very much more importance is to be laid on the kind of medium we use to grow the germs. With gelatin we are able to determine the full content. With agar we are not. With regard to the price of milk, we have to pay just as much for dirty milk as we do for clean milk. With regard to sick and well babies, you do not feed a sick baby; it is put on half rations, and perhaps no rations at all. I tried to emphasize the point of feeding babies according to weight and subcutaneous fat, but we cannot make the age rule or the weight rule. We have to look at the baby and then feed it. With regard to the dairy in Oakland, it is, I believe, the best illustration of what can be done. At San Jose Mr. Rhea put in lots of money and the ordinary equipment and managed to keep the bacterial count down to 16,000. I remarked that cane sugar is better because it is more convenient. We have no data to prove that lactose of cow's milk is the same as human milk, and no information to show that milk sugar is better digested than cane sugar. It is discouraging to find how often men use proprie-

tary foods. With regard to giving a table for the needs of the baby, that is all bosh. A baby uses per pound according to thinness and fatness of the child. No one can make a table. All I tried to do is to call your attention to the fact that we have a definite measure for foods and for babies' needs and can approximate with better success by using these measures.

SURGICAL TREATMENT OF GASTROPTOSIS.

By J. HENRY BARBAT, M. D., San Francisco.

The first recorded operative procedure for the cure of gastroptosis was by Duret of Lille in 1894. The operation consisted in sewing the stomach to the anterior abdominal wall, and was done for an extreme case of gastroptosis. The result was excellent, but has not found favor with the majority of surgeons, on account of the fixation of a normally movable organ, a condition which in itself has sometimes necessitated operative measures for its relief. Similar operations, with slight modifications, were reported by Davis in 1897, and by Rovesing and Hartmann in 1899. Up to date, Rovesing has reported seventy-five cases, and claims good results in practically all of them, but I should still hesitate to sew the stomach to the abdominal wall when some other operation would restore it to its normal position without this abnormal fixation.

Beyea, on April 19, 1898, operated upon a patient with an extreme gastroptosis as follows: The abdomen having been opened in the median line, the gastro-hepatic and gastro-phrenic ligaments were exposed and three rows of interrupted silk sutures were placed from above downward, and from right to left through the gastro-hepatic and gastro-phrenic ligaments, shortening these ligaments and restoring the stomach to its normal position. In a personal letter, Dr. Beyea reports ten patients operated upon by himself in this manner, with excellent results in all cases.

Coffey has reported two cases in which he attached the great omentum to the abdominal wall, forming a sling or hammock for the stomach. This operation has the same objection as the one of Duret or Rovesing, and would undoubtedly leave a large percentage of patients having gastroptosis with pains and discomfort greater than that due to the original disease.

Gastroenterostomy, gastroduodenostomy, gastroplication, and combinations of these operations have been done many times for gastroptosis, with varying results.

Which is the best operation for gastroptosis? The operation best suited for any particular case depends entirely on the pathology present, and the surgeon must make an accurate diagnosis if he expects to cure the patient by an operation.

In simple cases of gastroptosis, in which the lower border of the stomach does not descend below the level of the umbilicus, and where there is no kinking of the pylorus or duodenum, operation is rarely indicated. The cases which *do* almost invariably require operation to cure the patient, are those in

which the pylorus or duodenum is kinked or obstructed. If there is actual obstruction or stenosis at the pyloric outlet of the stomach, a gastroenterostomy or gastroduodenostomy must be done, or no relief will be obtained; on the contrary, if no real obstruction exists, and the pylorus is patulous, either of these operations is contraindicated, and will tend to increase rather than decrease the sufferings of the patient.

Gastropexy is the operation of choice in every case in which there is kinking of the pylorus or duodenum, and the method of Beyea or some slight modification of it, will undoubtedly give the largest number of satisfactory results. When there is extreme dilation of the stomach, it may be necessary, in addition to other operations, to do a gastroplication, but I believe that in the large majority of cases, if the proper operation is chosen, no tucking of the stomach will be necessary, because the subsequent treatment will usually restore the muscular tone and cause the stomach to contract to its normal size.

Improvement after operative procedures depends on whether the cause of the symptoms has been removed; and the success or failure of many of the operations which have been done to relieve the miseries of gastroptosis unquestionably hinged on the operator having, by accident or design, relieved the pyloric or duodenal kink or obstruction, which is undoubtedly the primary cause of the symptoms in gastroptosis.

Up to recently, I have been doing either gastroenterostomy or gastroduodenostomy for my cases of gastroptosis, but the results have not been uniformly good, and some of the patients still have some of their old symptoms. This I believe to be due to the fact that the wrong operation was chosen, and an extra opening made in a stomach in which the natural opening was sufficient. Had the angulation of the duodenum been relieved by placing the stomach in its normal position, and retaining it there, the food would be able to pass out at the proper time, the circulation of blood, and therefore the gastric secretions, improved, and gastromotor sufficiency established.

I now determine first whether the pylorus is patulous by pushing the finger, with a fold of the stomach over it, through the pyloric orifice. If it admits the tip of the index finger, there is no necessity of adding another opening, and the operation of choice is gastropexy. Usually Beyea's operation is chosen, but in a recent case the gastrohepatic omentum was so thin and porous, that I modified the operation slightly.

Following is a brief history of the case:

Mrs. W., aged 25 years (kindly referred to me by Dr. A. R. Fritch for operation), had been suffering for the past three years with accumulation of gas in the stomach to such an extent that her life had become unbearable. She had had her appendix and one ovary removed without any perceptible relief; her stomach had been washed out and everything known to medical science had been tried, without any improvement in her condition. Dr. Fritch had made several analyses of the stomach contents and

found that the total acidity never exceeded 15. The food was poorly chymified and mixed with tenacious mucus which showed a number of leucocytes, providing a mild degree of motor insufficiency.

With the patient horizontal, the lower border of the stomach could be outlined about one inch above the umbilicus, but with the patient erect the stomach became almost vertical. A stomach tube was passed and the stomach inflated with air. As the air passed in it could be heard gurgling through a small quantity of fluid which had been allowed to remain, and by palpation and auscultation the end of the tube was found to be two inches below and one inch to the left of the umbilicus. Percussion showed that the stomach lay almost entirely to the left of the median line. There was no apparent dilation, and the case was considered to be one of pure gastropotosis. The kidneys were not movable and the liver not displaced. It was decided to replace the stomach by operation.

When the abdomen was opened the stomach could easily be drawn entirely below the umbilicus, which produced a sharp kink at the junction of the superior and descending portions of the duodenum. The pylorus descended as low as the umbilicus, showing considerable elongation of the first portion of the duodenum, which was vertical instead of horizontal. The gastro-hepatic omentum was much lengthened, thinned and porous and had a free margin projecting for two inches below the lesser curvature. The weakened condition of the omentum prevented attempting Beyea's operation, and instead I placed six interrupted sutures of celluloid linen approximating the lesser curvature of the stomach with the upper border of the lesser omentum at its junction with the liver.

Care was taken to avoid including any of the blood vessels in the sutures; the stomach stitches included the serosa and muscularis and were placed just below the attachment of the lesser omentum. When the stitches were tied the entire gastro-hepatic omentum was puckered up and the lesser curvature of the stomach was in contact with the transverse fissure of the liver. Considerable traction was made on the stomach to test the strength of the sutures and they were found to hold perfectly. Since the operation the patient has not had any trouble of any description with her stomach, and passes gas through the rectum, a thing which she never did before the operation; but it is too soon yet to figure on the final result.

The post operative treatment consists in careful dieting, avoiding all foods which might ferment or tire the stomach, careful regulation of the bowels, and most important of all, the application of a supporting corset, to prevent undue traction on the ligaments of the stomach, and reduce to a minimum the venous congestion which is always found in the abdomens of patients suffering from ptosis of any of their abdominal viscera.

Closely associated with many cases of gastropotosis, and an important factor in its production, is hepatopotosis, for the relief of which several fixation operations have been devised. Rovesing in several cases went so far as to remove a portion of the left lobe by means of the angiotribe, in order to facilitate the operation on the stomach, and has supplemented his stomach fixation in some cases by attaching the liver to the abdominal wall. Suture of the round ligament to the anterior abdominal wall, thereby shortening the broad ligament, and using the round ligament as a sling, has a number of advocates. Passing sutures directly through the lower border of the

liver and anterior abdominal wall is preferred by many operators.

I have had only five cases in which I have done fixation of the liver for descensus of that organ. Twice the ptosis was traumatic in origin, and the patients were completely relieved of their symptoms. In two other cases the livers were enlarged, the lower borders extending below the umbilicus. In these cases the patients were relieved considerably, but liver changes had taken place, and one died two years later from cirrhosis; the other is still living (one and a half years since operation), and is able to work with comparative comfort.

In these four patients I used sutures of heavy catgut through the liver substance and the abdominal fascia, and with gauze sponges rubbed the opposing surfaces of the liver and diaphragm until they bled.

My fifth case was one of general enteropotosis, in which the symptoms were referable to the stomach principally. I did a gastroenterostomy, and attempted to replace the liver, which had rotated so that the right lobe was almost directly under the left, by using the round ligament as a sling, but the result was not very satisfactory and I believe that the best operation would have been the through and through suture to the abdominal wall.

I shall not enter into the details of nephropexy, except to state that I believe Longyear's operation of nephrocolopexy is undoubtedly the best of any devised so far. The ligament between the lower pole of the kidney and the cecum is made use of to support both the kidney and the bowel, and in the cases in which I have used this method the results have been extremely satisfactory.

Discussion.

Dr. Boardman Reed, Los Angeles: I agree with Dr. Barbat in almost all he says, especially that when there is obstruction of the pylorus surgery is very necessary. I also agree in saying that in the simpler cases surgery is not generally necessary or advisable. I have found that the greater proportion of these cases are amenable to treatment. In the treatment of gastropotosis and enteropotosis, of which gastropotosis is a part, the most important part of the treatment is hygienic and in the direction of overcoming the fault. When the fault is obstruction, surgery must be resorted to. If the obstruction is only spasmodic closure of the pylorus from hyperacidity, whether organic acid or HCl excess, there must be a correction of that cause and removal. Hyperacidity must be cured. This is by far the most frequent cause of gastropotosis. Other causes are over-eating and over-drinking. People are apt to eat and drink too much, and with eating too much, overloading the stomach and want of exercise, the abdominal walls become weakened and finally the gastric walls become weak and the gastric contents are upset. Also the clothes constitute a very large factor in gastropotosis. In the correction of the fault the dress is a very important step. In my experience in the majority of cases when you have corrected these causes, put the patient on a diet and corrected the hyperacidity, using the mechanical curative means as massage and electricity to the abdominal walls, and the patient lying on the back with the hips raised kneading the abdomen during exhalation, you

can bring about a cure, or a gradual overcoming of this fault. An abdominal support is very important. For many patients the best support is adhesive plaster. The objection to it is that when it is worn night and day the abdomen cannot be massaged, but in working women who cannot afford to come to the office and need immediate relief the plaster is of great help. For those patients who come and have these treatments, some form of elastic belt and massage will be the biggest comfort, and remove the symptoms entirely. Operation is almost unnecessary. Another point is the fact that in many cases of chronic diarrhea, gastropnoxis or enteropnoxis will be found to be the cause, and sometimes both. These cases in which the patients have suffered for years are often cured when proper support is given the abdominal viscera.

Dr. Dudley Fulton, Los Angeles: I agree that gastropnoxis is the trouble in the majority of cases. The only indication you ever have for operative procedure is where there is actual obstruction. We now know that the position of the stomach is of no clinical importance so long as stasis of food does not occur. That is rare except in those cases where there is a kink of the duodenum. However, before the operative procedure is instituted, the application of some mechanical support might do away with that kinking. Gastropnoxis is usually congenital. It may be aggravated by improper clothes, but you will find it in those persons of narrow thorax and of certain formation. Persons with gastropnoxis you will find hardly ever have any symptoms so long as they are properly nourished. Persons with vertical stomachs are predisposed to nervous troubles. The type of stomach trouble in gastropnoxis is functional and always of the nervous type. The proper treatment is to make them fat and apply an abdominal belt. A person may have gastropnoxis or enteropnoxis but have no symptoms until she is subnourished.

Dr. W. F. B. Wakefield, San Francisco: I believe this trouble of gastropnoxis is nearly always congenital and I believe that we should pay more attention to the physical shape of the children and be able to apply the preventive treatment along the lines of these different ptoses by developing the children along the physical lines so as to increase the narrow sub-costal angle that is characteristic of the physical state which accompanies these ptoses. I agree also that the symptoms produced by the condition are largely due to the conditions around the pylorus and that they can generally be relieved by treatment, mechanical and otherwise. I do not agree that surgery is not indicated in a fairly large percentage. I think that where the stomach has been out of place for a long time, where there is a certain narrowing of the pyloric opening or where there has been a long continued traction on the pylorus, where the first part of the duodenum is stretched out and the pyloric end elongated, that in these cases there is always a certain amount of residual food remaining in the stomach giving rise to gastro-intestinal symptoms. The only thing that will relieve this condition is to bring the stomach up to its proper position and hold it there constantly. This is best accomplished in the way that Dr. Barbat has suggested, and even in the cases where the gastro-hepatic omentum is extremely thin, we can make a competent ligament of it. In Philadelphia, I saw these cases treated and was convinced that the surgical operation held out great hopes of cure. Many cases have been in the hands of different doctors and we get the history of many forms of medical and mechanical treatment, though the patients are complete nervous wrecks and are finally cured by the operation Dr. Barbat has suggested. It should be brought out that gastropnoxis is a more common condition than

generally conceded and a number of cases of gastropnoxis are passing through our hands every day, the real cause not recognized by us, and if I would urge anything, it would be that we should keep this condition more constantly in our minds and make an effort to outline the stomach.

Dr. W. A. Clark: I should like to take issue with the last speaker. I do not think that the surgeon is placed in an embarrassing place by the physician. Most of the cases, on the other hand, run the gauntlet of the medical profession and are sent as a last resort to the surgeon. They come to the surgeon as extreme cases. I think there is great value in exploratory incision. We know there is a gastropnoxis present but do not know the cause and I think the knowledge gained by making the exploratory incision is very valuable.

Dr. Carl Krone, Oakland: We all know that the sphincter of the pylorus is a contractive ring and when there is atony the ring is larger and therefore the food stasis could not so well take place. The atony would favor the passing of food out of the stomach. I have had opportunity to see that a spastic condition of the stomach is accompanied by the acid condition. With an hour glass contraction of the stomach, we may wash out the upper part of the stomach and regain the water back clear and without acid reaction, yet after massage we may get more acid which shows that the spastic condition has been relieved by this performance. Therefore, I should think that if I understand Dr. Wakefield correctly, I should take issue with the theory of atony. I also think that stomach analysis is somewhat unreliable and more of a supplementary thing. I believe that we should give more attention to the analyses. We can very easily tell whether certain kinds of food will agree with a patient and have certain times of feeding. In that way we can make an accurate clinical diagnosis which is very frequently not achieved by a single stomach analysis. I believe that continued and repeated stomach analyses may hold in a similar way. I should not advise the doctor to send a patient right down to the surgeon, before he has made some good experiments with feeding. Rest in bed and egg nog without whiskey often adds weight to a patient.

Dr. Boardman Reed, Los Angeles: It has not been my experience that the patients go the round of the physicians and to the surgeon as the last resort. The work of the physician has not been fully recognized. Very few of these patients fail to be relieved by the proper mechanical means. I have seen patients who have never had their trouble recognized at all, the whole trouble depending upon the enteropnoxis or gastropnoxis, and that not recognized. Fully one-half of all women have some abdominal displacement. A valuable point is with regard to the value of supporting the abdominal viscera. I think a properly fitted support will generally hold up the viscera very well, and I think surgery should be resorted to only after a thorough trial of mechanical measures which prove curative in a great majority of cases.

Dr. Barbat, closing discussion: I expected to hear something with regard to the diagnosis of these cases. It has been my experience that at least twenty-five per cent of women have some ptoses, usually of the kidney and very often several of the other abdominal organs. The question of diagnosis is a very important one. As we have heard from the men who have had experience in this line, patients have gone the rounds and have been treated for everything but the trouble they really have. Probably the best means of diagnosis of ptoses is a physical examination. I will mention that examination of the gastric diaphragm by having the patient swallow an electric light is a most uncertain

performance. The people of today who are familiar with surgery prefer to have a simple operation and wear the corset for three or four weeks afterwards with practical cure, than to go to the doctor's office indefinitely. I think a clean surgical operation will cure more patients than medication. Another thing is the advantage of the corset over any other mechanical device that can be used. Many patients have abandoned the belt and taken up these corsets. With these corsets I have avoided operating in the last year upon at least seventy-five per cent of cases where the condition did not warrant operative procedure. The patients must wear the corsets faithfully. They must put them on before they get up in the morning and take them off after they have gotten into bed at night. If they get up in the night they must hold the abdomen so that no slacking of the organ will take place. The corset must be put on while the patient is in a reclining position.

A REPORT OF TWO CASES OF EPIDURAL ABSCESS OF OTITIC ORIGIN.*

By HILL HASTINGS, M. D., Los Angeles.

The following cases of epidural abscess are worthy of recording because of the sudden onset of serious symptoms of intracranial involvement; in one case, during a quiet convalescence from a mastoid operation; in the other case, during an acute suppurative otitis media without signs or symptoms of mastoiditis. The careful observation that was possible brought out some interesting points in connection with the origin of symptoms of an intradural nature, from an extradural collection of pus.

Case 1.—W. C. M. Male, age 33, was operated on by a confrere, in March, 1906, for acute suppurative otitis media with mastoiditis of four weeks' duration (left side). A thorough mastoid operation was done. The findings were—Subperiosteal infection from a perforation near the mastoid tip; subcortical cells broken down into an abscess cavity, extending backward over the descending limb of the sinus; the bone covering the sinus was not necrosed. The sinus was purposely uncovered, and found normal except for slight congestion of its dural coat. The antrum was cleaned out without exposing the dura. The patient left the hospital in good condition. The perforation in the drum membrane healed; the mastoid wound was clean and filling in rapidly. A little bare bone in the aditus was felt and some discharge escaped from the middle ear into the mastoid wound. On June 13th a secondary operation was performed by the writer on account of the persistence of a mastoid fistula leading down to the bottom of the cavity at the aditus. The incus was found to be diseased and was removed. As there had been scanty mastoid discharge and no discharge from the ear canal, it was believed that the diseased incus had been the cause of the failure of the mastoid wound to heal. In other respects the patient's condition was normal. He had been attending to business for a month or more, wearing a patch behind the ear. He complained at times of a little facial neuralgia, from which he claimed to be an occasional sufferer. Except for the failure of the mastoid wound to completely heal and "except for some neuralgic pain," the condition was normal.

On July 5th, 1906, four and a half months after the mastoid operation, the neuralgic pains suddenly increased in severity, affecting the face, frontal regions and left side of the head. The history notes at this time are as follows: "He can not sleep; has

been depressed for several days and has not felt 'just right,' that is, at times in general conversation he has felt a little bewildered; temperature 98.6 degrees; pulse 100; no hysterical tendency; no chills; no motor or sensory disturbances; reflexes normal; no nausea or vomiting; appetite fairly good; body well nourished. Tenderness on pressure is found at and around the supra and infra orbital foramina and in the temporal, parietal and mastoid regions of the affected side, especially marked at points here and there; no deep tenderness is apparent; no swelling of the mastoid region nor of the scalp in general. The mastoid wound is a clean, narrow, funnel-shaped opening leading to the region of the aditus. The ear canal is dry; the drum membrane is dull white and not perforated; the hearing in the affected ear has not changed since the mastoid operation (watch on contact); conversational voice at 10 feet; Weber towards the affected ear, and Rhine negative."

The physical signs were of no moment, but the history was most disquieting, especially the intensity of the neuralgic pains, to which, heretofore, not much attention had been paid. The following day the patient returned in bad condition. He had suffered all night from intense pain in the head. He was pale and weak and markedly dull. He spoke in a low, drowsy voice. He was feverish, 101.6 degrees. No chills, nausea or vomiting. No general motor or sensory disturbances were found. The tenderness of the side of the head noticed on the previous day had increased and was acute on the slightest touch. No choking of the disk on either side was apparent. The patient was sent to the hospital and Dr. H. G. Brainerd called in consultation. The patient had brightened up somewhat and suffered less, after a few hours' rest in bed. The usual signs of brain abscess, stupor, slow pulse, vomiting, choked disks were wanting; nor were the symptoms those of general meningitis. The pain as well as the tenderness was most marked in the frontal and temporal regions. The father desired delay to await more definite assurance of trouble other than facial neuralgia. An immediate exploratory craniotomy was, however, urged on the grounds that an extra-dural abscess likely existed, from which a fatal meningitis might rapidly ensue.

The history of the case up to this time is detailed as accurately as possible in order to show the somewhat confusing and disquieting nature of the symptom complex.

Operation was performed July 6th, 1906, at the Good Samaritan Hospital.

A complete radical mastoid was done. The mastoid cavity was cleared of scar tissue down to the inner bony table and the lateral sinus. The tympanic cavity and some far forward zygomatic cells contained granulations (drainage had evidently been backward through the aditus, permitting the perforation in the drum membrane to heal). The cavity was dried and under a strong light a careful search was made for a fistula leading into the cranial cavity. None was found. The bony table was everywhere hard and firm. The inner table of the middle cranial fossa was next chiseled through above the antrum, fluid pus at once escaping, under pressure. The bony table was further removed to the extent of about two inches, exposing a large epidural abscess on the under and outer surface of the temporo-sphenoidal lobe. The dura was thick and covered with purulent granulations. The removal of bone was stopped when less diseased dura was reached. Diseased zygomatic cells were removed above and anterior to the tympanic cavity. It was suggested that the intracranial trouble may have spread from this source of infection rather than from the mastoid. The dura was evidently sealed to the brain itself. There

*Read at the Thirty-seventh annual Meeting of the State Society, at Del Monte, April, 1907.

was no increased pressure. No exploratory incision was made into the brain substance, as sufficient was found to account for the symptoms. The facial nerve was exposed on cleaning the inner tympanic wall. Twitching occurred once. The wound above and in front of the ear was partially closed and the operation completed after making the Ballance meatal flap. Convalescence was uneventful. On the thirteenth day the patient was in good condition, bright, cheerful and free of pain; temperature normal. He left the hospital a few days later. At the end of six weeks the wound had healed except a small posterior opening maintained for better treatment of the middle ear. This did not heal and at the end of four months from the last operation a post-auricular fistula remained. The patient was at work and otherwise in good shape.

The subsequent history of facial neuritis and erysipelas is worth relating because of its bearing on the epidural abscess.

On November 6th (four months after the operation for epidural abscess), severe pain in the ear, radiating to the left frontal, pre-auricular and cervical regions occurred. He had caught cold the day before at the beach. His temperature was 99.3 degrees and in view of the past history he was again sent to the hospital. On the 3rd day in the hospital facial paralysis appeared. The paralysis quickly became complete, affecting the eye, upper and lower lips. The pain was marked along the course of the facial nerve, but also in and above the ear. Pressure over the seat of the former epidural abscess caused pain, as well as on spots here and there above and behind the mastoid. While the symptoms were considered possibly due to exposure to cold, yet in view of the old trouble it was deemed best to explore the middle ear cavity and uncover the site of the former dural involvement. A secondary operation was done. The facial nerve was found exposed in the inner tympanic wall. It was swollen and covered with granulations in this location. Care was taken not to sever the nerve nor to curet too freely the exposed bone in its vicinity. The scar above the ear was elevated to search for concealed pus. Nothing but firm adhesions were found with normal dura below and behind the scar; therefore no further intracranial involvement was believed to exist.

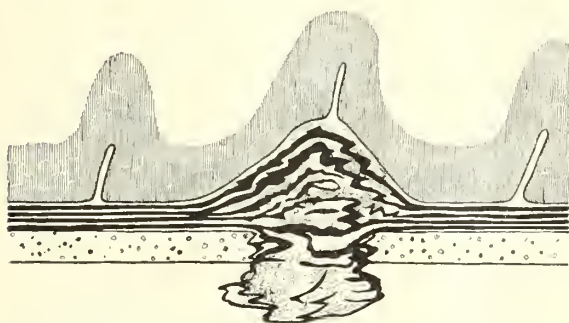
On the third day following this secondary operation, a chill ushered in a severe erysipelas infection of the outer ear and scalp. The temperature ran high, 104 degrees to 105 degrees with delirium, the edema of the scalp and face was very great and gradually extended to the face, ear and scalp of the other side of the head. Some twitching of the right arm and leg occurred. After the acute symptoms subsided, but while edema of the scalp remained, other interesting, though extremely disquieting symptoms occurred, namely, confusion of names and poor memory. He was unable to remember the name of an old friend, though conscious of his failing. He called various articles by the wrong name. At times his disposition seemed changed. He complained petulantly about little things, often with oaths, and was childish at times. This condition kept up for three or four weeks. Frequent examination of the eyes showed no choking of the disks. There was no slow pulse, stupor, nausea or vomiting. The temperature had dropped to normal on the subsidence of the erysipelas, except for a little afternoon accession to 99 or 99.6 degrees. At the end of four weeks the patient had regained his usual cheerful disposition and fully regained his memory. On January 3rd, 1907, the following note was made: "Temperature and pulse normal for two weeks; sleeps well; appetite good; normal nervous tone regained; no confusion of memory. He recalls and laughs at his inability some four weeks ago to

remember names, especially of a lady who called at the hospital and who seemed somewhat surprised by his failure to remember her name. The facial paralysis is slowly but gradually passing off." On March 3rd recovery had taken place. The middle ear cavity had become dermatized, dry and hard. The facial paralysis subsided.

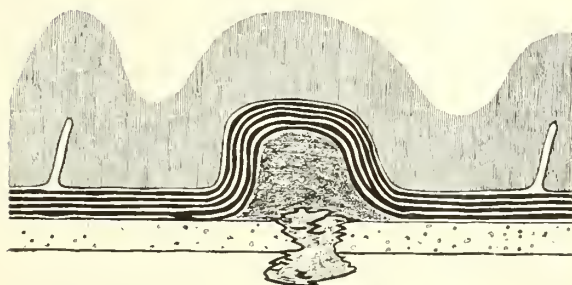
The facial paralysis was evidently due to a neuritis of the facial nerve such as occurs at times when the nerve is exposed in its course through the middle ear, and was not related to the original trouble—the epidural abscess.

Case 2—The notes of this case are brief as follows: H. M., aged 62, was seen in consultation with a confrere on March 28th, 1906, on account of suppurative otitis of four months' duration (left side). The discharge was profuse and had failed to yield to treatment. The canal wall at its juncture with the drum membrane was sagging. The deafness was extreme. There had been no mastoid symptoms, although the profuseness of the discharge had caused apprehension lest there was involvement of more than the middle ear cavity. No tenderness was apparent. His temperature was normal. He had the best of care in the hospital and was anxious to avoid all risk of trouble. The opinion was expressed, largely on account of the great quantity of pus coming from the middle ear, that opening the mastoid would eliminate further risk, as well as hasten both the cure and restoration of the hearing. He was questioned as to his physical condition in order to estimate the risk of an anaesthetic. The attending otologist said it was largely on this point that consultation was asked as an operation had been finally advised and that the patient was under treatment for diabetes. It was suggested that the advice of his medical attendant be considered, as to whether the risk of an anaesthetic was greater than the risk of a possible deep-seated purulent condition. The case rested in this condition for two weeks without improvement, but without symptoms of mastoid or intracranial involvement, when the patient had a severe convulsive seizure. He had been reading in bed; began to notice confusion of the sense of what he was reading and rang for the nurse. The nurse found him in convulsions. His physician was summoned. He stated that the convulsive seizure still persisted; the muscular contractions were general and the patient was unconscious; the respirations were stertorous, and he feared that the end was near. The symptoms, however, subsided during the night. When the writer saw the patient there was no trace whatever of the attack of the preceding night. The temperature and the pulse were normal; there was no headache or mastoid tenderness; no motor or sensory disturbances, and the patient's mind was clear. The medical consultants found the general condition to be normal; found no increase in the amount of sugar in the urine and nothing to account for the peculiar attack. The hospital chart for weeks back showed normal temperature and pulse rate. There was no history of epileptic attacks or drug habits. Operation was deferred for more careful observation. After a few days' observation, in which no variation from normal occurred, it was concluded that the "epileptiform" attack was not the result of the ear condition. Furthermore, as the ear discharge was decreasing somewhat, the temperature and pulse remaining normal and no pain or tenderness felt, it was confessed that the mastoid operation formerly advised was even less indicated. Two weeks later the writer was again called to the hospital to see the patient. He had attended a ball game in the afternoon; felt chilly on retiring to the hospital and complained of some headache; convulsive seizures followed. He was, at the time of this consultation, unconscious; pupils dilated and fixed; arms and

legs relaxed but apparently not paralyzed; no twitchings; reflexes normal; temperature high and rising. Operation was at once performed by the attending otologist, assisted by the writer. The mastoid was found diseased, with pus in and around the antrum and necrosis of the inner bony table. Soft, necrotic bone was removed to the extent of about two inches upward over the middle ear cavity, exposing an epidural abscess of large extent. The meninges were soldered together and of a dark, purplish hue and covered with pus as far as the bone was removed. Puncture of the brain failed to find an abscess within the brain. The patient died in six hours. A diagnosis of general lepto-meningitis was made; caused either from sudden extension of the epidural abscess or the bursting of a deeply-seated intra-cerebral abscess into the general meningeal cavity or into the lateral ventricle. Permission for an autopsy was not obtained.



Thickening of dura by adhesion of arachnoid projecting on its visceral surface and indenting the brain. Granulation tissue projecting from its internal surface through osseous erosion.



Bulging of softened dura toward visceral side of extradural abscess and osseous erosion with granulation tissue springing from bone.

Remarks.—These cases fairly well illustrate the points that the writer desires to make in the discussion of an epidural abscess.

Etiology.—Extension of the suppurative inflammation of the middle ear tract usually takes place by necrosis, softening and liquefaction of the bony table covering the brain, to an extent that leaves a fairly large necrotic opening between the mastoid or tympanic cavity and the brain; or, a small fistulous tract through the bony plate may form. This fistula may be so small as to escape detection and is wholly inadequate for drainage, so that a "concealed" epidural abscess of some extent may exist without being discovered at the time of a mastoid opera-

tion. Again, extension of the middle ear infection may proceed, without the formation of a fistula, through thrombosis of the venous channels in the bony plate, under the intact mucous membrane lining the middle ear cavity. We should bear in mind that the mucous membrane of the antrum or the tympanic cavity serves as the periosteum of the thin, bony plate separating those cavities from the dura.

Symptoms. An epidural abscess, properly walled off by adhesion of the dura to the bone, may undoubtedly exist for some time before either ulceration of the brain or general leptomeningitis supervene. It is highly important that diagnostic signs and symptoms be watched for. Certain points should here be emphasized. It is stated the dura mater is supplied by filaments from the sympathetic, fourth, fifth and twelfth nerves. Thus disease or pressure of the dura against the bone may cause widespread pain throughout distribution of these nerves. Reflex pain in the supra or infra orbital region is common in epidural abscess of the middle-fossa. Pressure of a temporo-sphenoid abscess often causes the pain to be referred to the frontal region according to Politzer and others. A case of brain abscess in the temporal-sphenoidal lobe where the pain was referred to the frontal region was reported by the writer at the 1905 Riverside meeting of the State Society. In the first case above reported the "neuralgic pains" were most pronounced.

Fever.—A low grade of fever persisting after a mastoid operation is a suspicious symptom, although the absence of fever is not proof against the existence of an epidural abscess. A rise of temperature rather indicates an extension of the process and irritation frequently precedes cerebral irritative symptoms. In the second case here reported the temperature was most carefully taken and recorded for many weeks and there was no fever up to eighteen hours before death occurred. In the first case the fever began when the neuralgic pains and irritative symptoms became severe. The pulse rate is of no special consideration. A very slow pulse is, of course, marked in pressure from an intra-cerebral abscess and may exist from pressure of an epidural abscess.

Other strongly suspicious symptoms result from the effect of an epidural abscess on the adjacent cerebral cortex.

We should remember that the existence of an epidural abscess with soldering of the membrane to the brain substance, means that a zone of inflammatory congestion spreads for some distance around the site of actual pus formation and may extend quite deeply in the brain substance; furthermore, that this congestive zone varies in extent from time to time. Irritation of certain cortical centers may thus take place solely from this inflammatory congestion; markedly so when the epidural abscess is situated on the left side of the brain, as in the two cases above reported. In the first case, confusion of memory and slight aphasia were suspicious of an epidural abscess of the temporo-sphenoidal

lobe extending towards the speech and auditory centers. It is interesting to note in this case the recurrence of these inflammatory congestive symptoms on the advent of the secondary erysipelas affecting the scalp over the site of the epidural abscess. In the second case an attack imitating epilepsy occurred, evidently from intense cerebral congestion spreading from the zone of inflammation surrounding the epidural abscess. The congestion subsided and no further symptoms occurred for two weeks, when general meningitis suddenly developed. An interesting case of similar character is reported by MacEwen.* Vomiting, stupor, slow pulse, etc., are not symptoms of epidural abscess, but rather of intra-cerebral abscess and operation should not be deferred until such pronounced symptoms arise.

Treatment.—Success in the surgical treatment of an epidural abscess depends on the promptness of operation. Failure is too frequently due to the delay in waiting for supposedly definite localizing symptoms. We should remember that the surface of the brain usually affected by extension of infection from the middle ear or mastoid is that of the temporo-sphenoidal lobe or that of the cerebellum; the latter usually by way of the lateral sinus. The motor area is situated so far above the middle ear that it is folly to wait for localizing symptoms from this cortical area. Also, it should be remembered and strongly urged that an exploratory operation to uncover the dura adjacent to the mastoid and middle ear is fraught with little danger; by no means as dangerous as an exploratory laparotomy where the peritoneum is opened. The dura is tough, very resistant to infection and can be safely exposed without any danger to the brain itself. Therefore in cases where a purulent focus in the ear or mastoid exists or has recently existed, and symptoms suspicious of intra-cranial infection have arisen, the adjacent dura should be uncovered, preferably by way of the roof of the mastoid or middle ear. If the dura of the middle fossa is found to be normal, the dura of the posterior fossa should be uncovered by uncovering the sinus and the cerebellum below the sinus. When the epidural abscess is reached pus will escape from between the bony plate and the surface of the brain. There will not, as a rule, be a large amount of pus. The condition is that of a circumscribed pachymeningitis. The membranes are found to be thickened, flakey, and yellow or purplish with adherent granulations. The softened bony table should be removed until a decided improvement both in the appearance of the dura and the condition of the overlying bone is apparent. Soft, yellowish bone is evidently infected and should be removed. The feel from the use of the rongeur in removing the bone is a helpful guide. The form of dressing is immaterial, just so it is sterile. If a large epidural abscess is uncovered and therefore a large area of brain exposed, com-

fortably hot cloths should be frequently applied during the operation.

While an exploratory operation to uncover an epidural abscess is almost devoid of danger and should be done more frequently, exploratory incisions or punctures in the brain substance are by no means so harmless. Even if the symptoms have simulated an intra-cerebral abscess, as in the first case reported, the writer believes it is best on thoroughly uncovering the epidural abscess to refrain from puncturing the brain substance in the search for a deeper-seated collection of pus. This can be done at a later operation if pressure symptoms persist.

MECHANICAL TREATMENT OF HIP JOINT DISEASE.

By JOSEPH KURTZ, M. D., Los Angeles.

There is one remedy for diseased or injured joints, which is superior to anything else and that remedy is perfect rest, which can only be obtained by a well-adjusted apparatus. Orthopedic appliances have been used to correct deformities for hundreds, and, perhaps, thousands of years; our text-books speak well of many, and criticize others sharply. It was my good fortune to attend the section of orthopedic surgery at Washington about three years ago, and it amused me not a little to hear so many of the rising orthopedists crack up their latest in the line of apparatus. A great many such appliances are now in use for the hip and each one has its advocates, and I may say that each one, in the hands of a competent orthopedic surgeon, may accomplish good and even the best results.

Their effect is to secure absolute rest to the joint while, at the same time, they should not interfere with outdoor exercise or the comfort of the patient; they must immobilize the joint and relieve it of the body weight. Now, while there is such a large number of apparatus, all may be divided into two classes: 1st, such as provide immobilization only, and 2nd, such as combine fixation and traction.

The apparatus of the second class, the fixation and traction combination, is generally used in this country and known abroad as the American splint. Our foremost teachers of orthopedics insist on their use, saying that they are the only kind to obtain good results. Most of the English, German and French are satisfied with the first class, apparatus without the traction combination. No doubt the traction method is theoretically the ideal, the most effective method; if it really does its work well it should separate the joint surfaces so that they cannot possibly touch each other, but I doubt whether this is often accomplished. In my opinion, the majority of these appliances simply control the muscular contraction the same as the weight and pulley extension does in fractures; of course this, in itself, is of great importance and contributes greatly to the relief and comfort of the patient. Unfortunately, they require the use of adhesive straps to secure the traction and many of the younger pa-

*Pyogenic Diseases of the Brain and Spinal Cord. MacEwen (p. 192).

tients bear them but poorly, they being often a source of annoyance. Furthermore, these splints are generally quite complicated, and also costly, so that it is questionable whether these defects do not outweigh the little additional security they seem to possess over the apparatus without traction. I am inclined to believe also that the majority of the American splints are not perfect fixation splints. It seems, however, that some orthopedists favor a little motion in the joints, as long as they feel convinced that the articulatory surfaces are kept apart, so no friction can take place. Now it has been proved beyond a doubt that fixation does not cause ankylosis and that if ankylosis occurs, and I dare say in the majority of cases it does occur, this is never due to the fixation apparatus, but to the character of the disease. Fixation will promote healing and prevent ankylosis, motion favors ankylosis.

Time is too short to give you a description of the various apparatus in use, so I must content myself to mention some of the best known and, finally, to recommend what I think will prove, if not the best, at least as good as any. Of the American class we find practically in every text-book on orthopedic surgery these well known splints: Taylor's, Judd's, Sayre's, Lovett's, Phelps' and also the Bradford frame. Every one of these has its good points and with each one you may accomplish your object.

Of the European, or purely fixation class, the following deserve recognition: Plaster of paris simply or with the stilt, as used by Lorenz, the Lorenz brace, the Hessing sheath apparatus and last, but not least, the Thomas fixation splint with its many modifications. L. Sayre, the father of modern orthopedics in this country, found himself compelled to use some cheap material in order to treat a case of Spondylitis; the patient could not afford the costly brace, so Sayre tied the plaster of paris jacket and, to his astonishment, he found it in fact the best of any apparatus used except for its stability and possible uncleanliness. Later on he used the same material for hip cases. I really believe that we owe to L. Sayre more for the introduction of the plaster of Paris dressing than for anything else he has done. Lorenz perfected the plaster of paris dressing very much; his spica, which reaches to about the middle of the leg, below the knee, may be used as such or in connection with a stilt below in order to remove body weight from the joint. Some surgeons apply the plaster of paris and then, in order to get a stilt apparatus, place a brace over this. To me this would not appeal.

I would not do justice to my paper if I did not mention the Hessing sheath splint (Hulsenschiene), although there may not be one in this country. Hessing is not a doctor of medicine nor a surgeon; he was originally a truss maker (a bandagist), and has perfected himself into a thorough orthopedist. He is frequently quoted by Hoffa, Lorenz and other German orthopedists and his apparatus is much used in Germany. It is much more complicated and much more expensive than any other and is not apt to find its way into this country. All his

apparatus is made and molded over a perfect or corrected cast and is, in fact, as much a corset as the back brace or corset. I now come to the last, but not least, the Thomas or its modifications, and this is the one which I employ more than any other. I had an idea that I had a modification of it all for myself as I had it made to suit myself. I needed a splint for a poor patient and had it constructed on as cheap a scale as the case would permit; the result was so gratifying that I have used quite a large number of the same kind since. I expected to show it to you as Kurtz' own, but imagine my horror, Tuesday, when a child came to me with practically the same splint, which was applied by Dr. Gibney of the "Hospital for Crippled" in Brooklyn. The Thomas splint has been modified by Phelps, who added the ring, changed the upright to the inside and applied an extra outside short splint to it. Perhaps there is nothing more perfect than this, but I must again say that it is too complicated and too expensive, and I venture to say, also, that I can get as good results with my splint as were ever obtained with Phelps' modified Thomas splint.

The beginning of the treatment of a tubercular hip case necessarily varies according to the stage of the disease or according to the advance the disease has made. If we get hold of a case very early, the extension with weight and pulley and bed rest will do good service for about a month; after that I resort to either the plaster of paris or my modification of Thomas', preferably the latter. If there are already contractures, ankylosis, the question arises, Shall we correct the deformity gradually by extension in the line of deformity, or correct it forcibly at once? Should the symptoms be acute I would avoid forcible correction and make extension in bed until such acute symptoms have disappeared. In the absence of acute symptoms I resort at once to correction under an anesthetic, divide contracted tissues, and apply a plaster of paris dressing. After this proceeding, the patient will always be quite tender, sometimes in considerable distress. He must remain in bed until all pain has been relieved, no matter how long it takes. It is the recumbent position which will soon overcome the muscular spasms—there is no apparatus which will accomplish this as well. If free from pain, the patient may get up with a raised shoe on the good leg and move about with crutches. The plaster cast may remain on from six to eight weeks, when I change it for a modification of the Thomas splint, preferring the simplest kind such as I show you here, and which also requires the crutches. I may use the crutches to the very end of the treatment, or I may, after six months or a year, employ the Phelps' ring with the Thomas, and allow the patient to ride upon it. This requires an elongation of the splint so that it acts as a stilt. I have also used the Lorenz spica with the stilt with good success; these appliances secure rest, prevent pressure and relieve the joint of the body weight.

With these methods I have treated, during the last two years, seven cases, three of which were sup-

purating and required cleaning out, but in none of them have I made any excision of the joint. In one case I broke the neck of the femur, but I can say that every one of them has been and is doing well. As to the function, this is, in all cases, considerably interfered with. Ankylosis is, as far as I know, the rule, and I can never forget the remark of Lorenz to me that ankylosis itself is a great safeguard after recovery from tubercular conditions. My cases are all straight.

In spite of the best possible treatment with mechanical apparatus, there are cases which will not get well and which run a course toward complete destruction of the joint; such cases require bone operative treatment.

STATISTICS, ETIOLOGY AND PATHOLOGY.

By E. H. WILEY, M. D., Los Angeles.

The subject under discussion labors under a variety of synonyms which are uselessly redundant and confusing. Thus we have *morbus coxarius*, *morbus coxæ*, hip disease, tuberculous disease of the hip, chronic articular osteitis of the hip, medullo-arthritis, coxitis, coxalgia, and *morbo coxario*. The term, Hip Joint Disease, while not scientifically descriptive, is so well known and so commonly used that its application to the condition will not be easily supplanted. As a matter of fact, all these terms are used to cover a variety of conditions of tuberculosis, some of which do not even affect the joint, or affect it only secondarily.

We should naturally expect that tuberculous disease would most frequently attack the large joints most subject to use and most exposed to trauma. On account of the more sluggish circulation in dependent parts we should expect that the lower extremity would be most frequently the seat of the disease. Statistics bear out these premises, although they do not agree as to the relative frequency with which various joints are attacked. Thus, Young, compiling 1,000 cases, finds the vertebrae affected in 11.6 per cent, the hip in 42.1 per cent, and the knee in 10.3 per cent, while Waldvogel, compiling statistics of Prof. Koenig's cases between the years 1876 and 1895, finds the hip involved 568 and the knee 720 times. The preponderance of tuberculous infection of the knee seems theoretically more probable, considering the large size of the joint, its superficial situation and exposure to trauma, and its burden of weight with relatively poor static properties.

Most authorities agree that the right side is affected slightly more frequently than the left, the difference amounting to 1 per cent in Koenig's series, and slightly more according to some others. The difference may be accounted for by the greater frequency with which the right side is used and its slightly greater liability to sustain injuries.

The consideration of the etiology involves as an exciting cause the bacillus tuberculosis and various predisposing factors which deserve consideration.

Age—Hip Joint Disease is essentially one of

childhood, though no age is exempt. By far the greatest number of cases occur before the age of 15 years. In Koenig's series 78 per cent occurred before this age. Of 5,461 cases noted by Knight, 88.2 per cent were under 14, and of 1,344 cases of Wright, Bryant and Sayre, 1,000 were under 15. This susceptibility during early years is due to the activity of joint growth, the liability of the joint to trauma, and to the large number of children within this age limit who are exposed to bad hygienic surroundings.

Sex—There is a slightly greater number of males affected, probably because the rougher habits of boys expose them to injury which is so often the determining factor in the localization of the disease.

Heredity—There can be no doubt that a tuberculous ancestry very strongly predisposes to hip disease. Of 229 cases of Koenig's in which a history was obtainable 35.4 per cent gave a tuberculous genesis. The real percentage is probably higher than is usually obtained, on account either of ignorance or of a disinclination to admit a family taint.

Traumatism—The principal factors in determining hip infection are those which lower the local power of resistance. Falls upon the trochanter or upon the feet, twists and wrenching injuries which impair the integrity of the joint very often precede the development of hip disease. It is interesting to note that it more often follows slight injuries than severe ones which fracture the bone or dislocate the joint. Statistics also note the fact that the process is not infrequently aggravated by traumatism.

Exanthematous diseases, which lower bodily resistance and which sometimes show a disposition toward localization in joints, are frequently followed by tuberculosis of the hip.

Pathogenesis—The hip joint well protected by soft tissues and not liable to open wounds, can only be attacked by tubercular infection in one of two ways: First, and most frequent, by way of the circulation, the local conditions being favorable for the development of the bacilli in or around the joint. Second, the extension of the process to the joint from infections of neighboring structures. It is also true that hip disease is usually secondary to a tuberculous focus elsewhere in the body. The commonest avenues of entrance are through the respiratory and intestinal tracts. In the first instance, enlarged and caseating cervical or bronchial glands usually result; in the second, strumous adenitis of the mesenteric or retroperitoneal groups. Other avenues of entrance, as the ear, are more rarely observed. Not infrequently the tuberculous primary area remains quiescent, or is only demonstrated post mortem.

Bearing in mind the fact that the blood is the carrier of the bacilli to the joint and its neighborhood, we can readily see that the localization of the process is determined by the vascular twig through which the bacillary embolus is propelled. Its entrance into the ramifications of the nutrient artery of the femur will be followed by the wedge-shaped bone infarct with which we are familiar. On the

other hand, should the nutrient vessels of the acetabulum be the bearers, we should expect a primary acetabular process. In the same way the synovial membrane is often the seat of primary trouble. The bloodless cartilage should be exempt, and as a matter of fact, is spared a surprisingly long time after the mischief is well under way elsewhere in the joint. That other points should suffer with the hip by the same blood-borne infection is not strange, and Koenig's cases present thirty-five instances of bone and joint tuberculosis associated with the same process in the hip.

Pathology—While the late stages of the disease present an appearance familiar to all, the picture in the earlier stages varies materially with the location of the primary focus. The frequency with which the synovial membrane is primarily attacked is placed by Von Volkmann and Riedel as 16 to 17 per cent. One reason why it is difficult to estimate the occurrence of this form is the fact that statistics are gleaned from conditions present at operation, and those cases subjected to surgical interference have often suffered such extensive destructive changes that the positive identification of the primary focus is difficult or impossible.

The synovial form presents two types pathologically. The first, a mild form found almost altogether in children, characterized by a cloudy effusion into the joint, which contains more or less fibrin in masses. The synovialis itself is swollen, especially in the folds where it is reflected from the neck of the femur. It is moderately hyperæmic and presents areas of firm flat reddish granulation tissue which may also involve the head of the femur, without, however, doing serious damage to the cartilage upon which it lies. Occasionally a rarefying subchondral osteitis results in loosening the cartilage. The only indication of the tuberculous nature of the process is the presence upon or within the granulation masses of tubercles. This form, which, unfortunately, is not the most frequent, offers hope of retrogressive changes, leaving a functionally unimpaired joint. The far commoner form of synovial infection presents a sac filled by profuse and caseating granulations. The fatty acetabular tissues are swollen and the ligaments relaxed. The shallow cavity allows of early luxations. Here follow secondary bone involvement and extensive destruction with the same appearance finally as in the primary bone necrosis.

Primary Bone Tuberculosis—When the focus appears first in the bone its location may be anywhere within, or in the neighborhood of the joint, and upon its location the further fate of the joint depends. The extra articular location carries with it the possibility of resolution without joint involvement. These places are: 1st, the trochanter major; this location is often seen in adults, while, 2d, in children the lower part of the trochanter minor is often selected; 3d, in the lower portion of the tuber ischii; 4th, in the ilium near the upper edge of the acetabulum; 5th, in the anterior inferior spine of the ilium. From these points the joint is secondarily

infected by vascular or lymphatic channels with extensive synovial involvement, or remains free until an extension of the necrosis results in rupture into the cavity with widespread and rapid destruction.

The osseous lesion, primarily intra articular, may be situated either in the femur or in the acetabulum. These sites are infected with about equal frequency. They are more usually single, though often occurring in numbers. The favorite spots in the femur are beneath the articular cartilage or in the neck, while in acetabular foci, we find oftenest affected the upper and posterior edge of the cavity and the central triangle representing the junction of the three portions of the os innominatum. Osseous tuberculosis of the femoral head is not observed in young children, as the head is little ossified up to the fourth year of life. We then find in these children early involvement of the neck, which, on account of the extensive attachment of the capsules, is yet intra articular. The process is occasionally slow, with firm cartilaginous granulations which cicatrize and shrink. This indolent form is known as tuberculosis sicca and tends to a spontaneous healing. The more ordinary process is distention of the joint with fluid and proliferation of granulation tissue which is primarily, or becomes secondarily tuberculous in character. The breaking down of this tissue, in which are larger or smaller sequestræ of bone forms the tuberculous abscess. The continuation of this destruction leaves bone ulcers. The cartilage meanwhile, after resisting for a considerable time, suffers by encroachment of granulation tissue from its surface, or from bone inflammation beneath, and may be loosened and when subjected to additional injury through movements of the joint, may ultimately come to lie loose within the cavity or even to be fragmented and absorbed entirely.

The increasing pressure within the joint, combined with the infiltration and destructive changes in its tissues, soon results in a rupture of the capsule and an extension of the process to the soft tissues. There is now present a cold, or tuberculous, abscess which finds its way to the surface and, rupturing, leaves a sinus or sinuses which tend to great chronicity.

According to the location of the focus and the rupture of the capsule, the subsequent appearance on the surface of the sinus may be anticipated. Thus, in anterior abscesses the pus emerges from the anterior and internal aspect of the capsule, after which it may pass to the outer side of the psoas magnus, or between the adductors and the vastus internus, or upward along the psoas tendon to the pelvis.

External abscesses originate after penetration of the bursa over the trochanter or from primary lesions of the trochanter itself.

The posterior group, following foci in the femoral neck or acetabulum pass downward to escape on the thigh above the lesser trochanter, or upward to spread over the ilium where they later point under the gluteal muscles. Sometimes these collections

burrow into the rectum and are thus discharged. Those bone abscesses originating in the acetabulum or ilium may also penetrate the pelvis and discharge themselves within it. There is always together with the destructive changes active tissue proliferation whose object is the limitation of the process here, as elsewhere, after discharge of tuberculous debris, by cicatrization. The triumph of this delimiting cicatrization, with the cessation of tuberculous destruction marks a fortunate ending to the process. Its future, with the continuance of suppuration and tissue destruction, is followed by the deformity, sinus formation, emaciation and amyloid degeneration of various organs, whose termination is only brought about by the death of the unfortunate victim.

THE PROGNOSIS OF DIABETES.*

By EDWARD W. TWITCHELL, M. D., Sacramento.

Undoubtedly much of the ominousness with which the word diabetes is fraught, for the physician as well as the layman, is due to the time-honored attitude of the insurance societies and lodges towards those afflicted with that disease.

Whenever an individual applying for life insurance is discovered to have sugar in the urine he is rejected without more ado, and is furthermore disqualified for admission to other societies in the future. Consequently the public, lay and medical, has the habit of looking upon the diagnosis diabetes as equivalent to a death sentence shortly to be carried out.

There is no need to point out to you the fact that this attitude is anything but scientific, and not at all creditable to the profession. The layman is excusable, but the physician should no more take his ideas of prognosis from the insurance society than he should take his notions of therapeutics from the literature sent out by the drug houses. The factor of safety allowed by the insurance company is enough to warrant an expectation of a good many years for the average patient.

The pathology of the disease is not as yet on a sufficiently firm basis to allow one to differentiate the various clinical types from an anatomical standpoint, and we are constrained to group them according to their amenability to treatment. Using this as a basis for diagnosis looks like reasoning in a circle, but in the light of our present knowledge we can do no better.

Other things being equal, the younger the patient the severer the disease and the more quickly fatal. Most unfavorable are the cases in young adults of the poorer classes, who are poorly nourished at best, and who speedily go to pieces when the disease attacks them. An apparent exception to the rule must be noted in the fact that a certain number of infants and young children recover after a glycosuria running a very acute course. Aside from these few cases, the course of diabetes in the very young is extraordinarily rapid and fatal.

A number of acute cases ending in recovery are

due to head injuries and as such are hardly to be classed in the same category with the pure diabetes.

The most favorable instances are found in the well-to-do and well-nourished adults past middle age, who can be induced to place themselves under proper dietary regime. In such cases the disease may run on for many years without any great inconvenience to the patient. In general, the disease may be looked upon as a chronic one, and if sugar elimination can be easily controlled by withdrawal of a moderate amount of carbo-hydrates from the diet, the progress of the ailment may be foretold as slow and gradual.

As to the possibility of recovery, this is exceedingly rare. Naunyn declares that he has no record of a single case of recovery where the disease has existed for any length of time, long enough, that is, to warrant the trouble being called chronic. Consequently the question of prognosis resolves itself into a guess as to the duration of the disease.

Very acute cases have been known to terminate fatally within five weeks. Wallach's case is interesting in this regard. The patient in question was a chemist who was in the habit of making weekly examinations of his urine. Five weeks before his death the urine was free from sugar. I am convinced from a recent experience of my own that many of these so-called acute cases are no more than chronic ones, long undiscovered, which have suddenly become aggravated. The patient of whom I speak was in coma and at the point of death when I first saw her. So little had her condition concerned her that the family physician was summoned only the day before. Careful inquiry after death made it pretty certain that she had been suffering from diabetes for a long period.

Statistics are, of course, no more reliable here than elsewhere, but it may be interesting to give some of those compiled by Naunyn. In 141 of his own patients, private and polyclinic, 42 died 1 year after recognition, 35 died between 1 and 2 years after recognition, 23 died between 2 and 3 years after recognition, 14 died between 3 and 4 years after recognition, 5 died between 4 and 5 years after recognition, 7 died between 5 and 6 years after recognition, 6 died between 6 and 8 years after recognition, 1 died between 8 and 10 years after recognition, 6 died between 10 and 12 years after recognition, 1 died 16 years after recognition, 1 died more than 31 years after recognition.

Of 64 severe cases, 59 died before the third year after discovery, and but one lived until the eighth year.

Naunyn remarks, however, that these statistics are hardly fair, as the disease in many instances may have existed for a long time prior to discovery. It may, none the less, be looked upon as a pretty accurate table of expectation.

From it we may deduce that while the severer cases usually end by the third year, the milder ones may drag on for thirty or even more.

Complications of all sorts may modify the picture to an extreme degree. A particularly fatal

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

combination is that of tuberculosis and diabetes. These two wasting diseases par excellence, acting together, make short work of the victim.

Of the pernicious complications of the disease, growing directly out of it, such as gangrene, furunculosis, etc., it seems to me that they are included in the general survey and not deserving of especial attention in a chapter devoted solely to prognosis.

SURGERY OF DIABETICS.*

By O. O. WITHERBEE, M. D., Los Angeles.

Until recent years diabetes mellitus has been considered one of the most prominent contraindications in the operative treatment of complications arising therefrom and of surgical conditions in general, developing in various parts of the body.

At the present time, with a better understanding, though yet limited knowledge, of this derangement, we are enabled by close observation of our patients and a careful analysis of their excreta to advise operative interference with almost as much assurance as we would ordinarily if they exhibited no evidence of the disease.

Noble¹ was much shocked on operating his first diabetic to learn that a blunder had been made in the laboratory whereby normal urine from another subject had been mistaken for that of his patient, and he was consequently led to perform an operation which otherwise he would have refused. The patient made an uneventful recovery. He afterward operated six others, one of whom died of coma. In the remainder the healing of the wounds and the general progress toward recovery were not different from that in other patients not subject to glycosuria.

According to Morris² there are three chief reasons why diabetes interferes with a surgeon's work. First, the hygroscopic properties of the sugar circulating in the blood renders dryness of the tissues such as to interfere with the normal process of repair. This may limit the capacity of the leucocytes for the performance of their function, and it, no doubt, prevents the proper development of the new repair cells.

The gangrene following operation on diabetics is probably due, in part at least, to blocking of the lymph channels by leucocytes which are not able to travel from lack of moisture. Again, the fluids of a wound loaded with sugar are in all probability excellent culture media, necessitating the most rigid aseptic measures in conducting the work. As a third reason he mentions an impending nephritis, which may be precipitated by the anaesthetic, since the kidneys have become irritated as a result of excreting sugar.

Transitory diabetes is often encountered following injuries of various kinds, chiefly of the head; the organs next in frequency being located in the upper abdominal region, namely the stomach, pancreas, liver, kidneys and spleen. These cases are

often associated with traumatic neurosis and the glycosuria, though transitory, may become permanent.

Thorbecke's³ experience and analysis of one hundred and twenty-eight publications on operations on diabetics have demonstrated that the entire organism and urine should be carefully examined and the limit of tolerance estimated to determine the form and degree of the diabetes.

In addition to the six cases operated by Noble, he later, in reviewing the literature, was able to add sixty-two others. Of the total number seventeen died. One of the deaths was from erysipelas, two from sepsis, five from causes not stated, and nine from coma.

The chief cause of death after operation in diabetes is coma. This seems the one that is the least possible to guard against. Coma is due to the presence of acid substances in the blood, these being due to a restricted diet and to the absorption of tissue products during and after the operation. The administration of soda before and after the operation neutralizes this acid and thereby lessens the probability of coma.

Gerster⁴ speaks of diabetes as an extremely insidious disease. Glycosuria is nearly always intermittent. Urinary examination may prove negative and yet diabetes be present. Careful inquiry into the patient's history, however, will elicit the fact that glycosuria and thirst are sometimes present.

At times sugar in the urine disappears during the drain of suppurating areas, and it is not uncommon to note its temporary absence in infectious fevers, due in the latter instance to withdrawal of the diet from loss of appetite. Sugar may be intermittently present for a long time before diabetes becomes established.

In the early days, when a major operation was contemplated, the "test" incision was frequently resorted to, and if this did not heal kindly the more serious operation was not performed.

The complications most common are furunculosis and carbuncle. Of course these may occur independent of sugar in the urine, and it is plain to see how simple polyuria, by causing a dryness of the skin, may favor inoculation of the least abrasion with pyogenic organisms.

Gangrene of diabetic origin usually manifests itself first in the skin and may appear as a blister following local irritation. If infection occurs, extreme ulceration soon follows, and it is not uncommon for a whole extremity to become involved. It occurs more frequently in the leg than in the arm and more often in men than in women. Attacks begin with an indefinite pain and disturbance of sensation, followed later by fatigue of the extremity, while the fingers and toes become slightly blue, showing interference with the vasa motora.

If the lower limb is involved and amputation becomes necessary the point may be selected according to the condition of the limb. The presence or absence of pulsation in the popliteal space may de-

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cide whether it should be above or below the knee joint.

It has been stated that diabetic gangrene differs from other forms in that no sharp line of demarcation or zone of inflammatory action is present.

Recent observations, however, show no essential difference between diabetic gangrene and any other form due to arterial obstruction. Factors such as disturbed nutrition and central nervous disturbances no doubt exist in diabetes, but the primary cause of gangrene which occurs in this disease is to be sought for in other conditions than the disturbed metabolism.

In the circumscribed form the line of demarcation shows a zone of marked inflammatory action and the necrosed part is either cast off as a slough or incysted. In the spreading form there is no limitation, and the process advances until the death of the individual occurs, or the necrosed portion, together with the cause of the gangrene, is removed from the body by surgical intervention. In these cases the tissue resistance is either greatly lowered or the poisons produced by the infecting bacteria infiltrate the surrounding lymph spaces, causing a spread of the necrotic process, or the bacteria have the power of invading and destroying the tissue not previously damaged.

In the circumscribed form the infection is less violent or the surrounding normal tissues are able to resist the spread of the infection. In metastatic gangrene bacteria are carried through the blood or lymph and set up secondary foci of inflammation and gangrenous necrosis.

This can happen only in primary gangrene, due to infection with a specific organism. Among other complications frequently demanding surgical intervention may be mentioned cataract and mastoiditis, but as these subjects belong to the realm of the specialist I shall say but little concerning them. Schlesinger,⁵ in reviewing indications for operative interference, mentions, first: All surgical inflammatory complications which involve risk of life, whether the diabetes be light or severe in type. Second: In inflammatory diabetic gangrene, if diet and conservative treatment do not arrest the progress of the condition, and especially if there are signs of threatening general infection, lymphangitis, rapid pulse and high fever. Third: In diabetic cataract operation may be undertaken as soon as the cataract is sufficiently ripe. Anti-diabetic treatment is useful, but it is not necessary to wait until sugar has gone from the urine.

Many surgeons advise operation in inflammatory complications if the pain is severe and the patient can not be well cared for. In the inflammatory type of gangrene, however, it is advisable to await the formation of a line of demarcation, and meanwhile to institute anti-diabetic treatment. Operation is recommended in all independent conditions which may, if left alone, endanger the life of the patient, such, for example, as malignant growth. Operation is contraindicated when there is no urgent call, and especially in diabetes with diaceturia.

If positively necessary under such circumstances,

then a general anæsthetic should be avoided if possible. All operations of orthopedic character or for cosmetic effect are not advisable in presence of diabetes.

Such complications as furunculosis, carbuncle and gangrene should be viewed as contraindications to operation elsewhere. To these may be added diaceturia, arterio-sclerosis, cardiac degeneration and marked albuminuria. General rules pertaining to operations on diabetics as given by Furth⁶ suggest the extreme care necessary in the preparation of these patients and the precautions which must be observed relative to surgical procedure and the after treatment. Reduction of the amount of sugar by strict diet and the administration of soda is recommended. Removal of all mental excitement as far as possible and the relief of pain without narcotics if this can be effected. Strict attention to asepsis and antisepsis, avoidance of exhaustion, purging and loss of fluid from the system, an enema being given the night before the operation, which should be performed early in the morning.

Local or lumbar anæsthesia is preferable to general narcosis. Saline enema should be given after operation, citrate of soda being administered as before, with easily digested food. If convalescence is smooth, massage should be practiced early. As previously stated, the chief cause of death after operation is coma, and the risk of its supervention is not assumed without more or less dread on the part of the surgeon. In a considerable number of cases coma has occurred immediately following narcosis, and this is especially to be apprehended if diacetic acid is present in the urine.

It matters but little whether chloroform or ether is used, although many prefer the latter. Coma may occur some days subsequent to the operation. Of fifty fatal cases of gangrene collected by Wolf death occurred from coma in six out of twenty-two that were not operated, whereas it developed in thirteen cases out of twenty-eight that were subjected to operation.

In several instances severe hemorrhage has occurred from operations, apparently due to some involvement of the smaller vessels. Diabetes renders wound infection extremely probable and gangrene of skin-flaps following amputation is not at all uncommon. By rigid aseptic methods far better results can be obtained than were formerly thought possible. This applies to ordinary surgical affections in diabetes as well as to complications of this disease. Of one hundred and ten cases of diabetic gangrene Wolf⁷ records fifty deaths treated by expectant methods, while of seventy-five cases operated on there were but twenty-eight deaths. Korner⁸ reviews thirty-eight cases of mastoid involvement which were subjected to operation. Seven of this number were observed by him. In thirteen with but slight diabetes the wounds healed in an average of nine weeks. In five cases of moderate severity the wounds healed completely. In nine cases of severe type death followed operation in four. In two transitory coma occurred, but in

no case did the operation permanently aggravate the diabetes.

Of ten operated cases of diabetes collected by Sternberg⁹ four suffered from the disease in severe form; several of the operations were of major character, yet death resulted in none, and in more than half complete recovery followed.

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OTITIC MEDIA IN CHILDREN, A NEW PRACTICAL POINT IN DIAGNOSIS. BACTERIAL INVESTIGATIONS.*

This paper is based upon the study and analysis of 30 cases of otitis media treated in the Pediatric Clinic of the University of California and in my private practice.

By SANFORD BLUM, M. S. M. D., San Francisco.

Certain observations which study of a number of cases of otitis media in infants and children have impressed upon me as important are generally neglected; others are not described in the literature on this subject.

The first of these relates to the diagnosis of acute middle ear affections of whatever nature. A typical case will afford material for illustration:

Emily G., 5 months old, has cried intermittently and has been in pain for 24 hours. She does not sleep, refuses food, is fretful, flushed and feverish. Examination of the chest and abdomen discloses nothing to cause these symptoms. Pulse 140; rectal temperature 103 degrees; defecation and micturition normal. There is redness of the fauces. Directing attention particularly to the ear, because in obscure cases in childhood—cases without a definite chain of symptoms—it is well always to consider the possibility of otitis media, pressure made by placing the finger behind the angle of the jaw in the groove formed by the left inferior maxillary bone and the anterior border of the sterno-cleido-mastoid and pressing upward and inward toward the auditory canal, elicited decided evidence of pain. On the other hand, manipulation of the external ear in the manner commonly employed, e. g., by pulling the helix forward and backward, by drawing the lobe downward, and by pressing upon the tragus, failed to produce evidence of increased pain. Otoscopic examination showed the membrana tympani faintly reddened, retaining its reflection and not bulging. These signs of inflammation were so slight that a practiced specialist who examined the infant the following day considered it proper to exclude otitis media as the cause of the indisposition. After two days more of suffering the ear-drum perforated

spontaneously and the infant made an uneventful recovery.

This phenomenon of tenderness discovered in the manner I have described I have been unable to find in the literature on this subject. Pollitzer refers in a cursory manner to tenderness along the course of the eustachian tube, and this manipulation no doubt affects the eustachian tube, but that is the nearest approach I have found in reference to this symptom. This symptom is constant in otitis media and is of especial diagnostic value in infants. Like other individual symptoms, it alone does not suffice for a positive diagnosis; but that does not affect the fact of its existence, when we see, as in the case cited, that even the disclosures of an otoscopic examination not infrequently fail to give an adequate idea of the pathologic conditions present in otic affections in children. To be sure, when the membrana tympani bulges, it is ordinarily safe to assume the presence of fluid in the middle ear; but absence of bulging or lack of pronounced myringitis by no means excludes it.

This leads to the second point I want to discuss—a matter bearing on the differential diagnosis of otitis media before perforation of the membrana tympani and in some degree concerning prognosis and treatment. Here the bacteriological findings may prove of value. As illustrating three classes of cases I cite the following three examples:

E. B., a 3-year-old girl, previously healthy. Referred to me April 3, 1904, by Dr. Levison. For several days she had been ill; fever a prominent symptom. The temperature fluctuated irregularly; it was 105 degrees (rectal) on the morning of April 3rd. There was present a mild pharyngitis and bronchitis, with some gastro-intestinal disturbance. Pain was evoked when the manipulation described above was practiced on the left side. Otoscopic examination showed a slightly reddened membrana tympani, no bulging and no loss of reflex. The child has a large pharyngeal adenoid. A grain of calomel was given, followed by a dessertspoonful of castor oil. The diet was regulated and treatment for the pulmonary affection instituted. Evening temperature 101 degrees. April 4, temperature, 9 a. m., 102.4 degrees; 4 p. m., 104.2 degrees. The urine contained a trace of albumen; no casts; diazo reaction negative.

An aurist found the membrana tympani very slightly injected; did not consider the ear responsible for the symptoms. He recommended the application of hot poultices over the concha. Under this treatment, together with treatment for the bronchial affection, the severity of the symptoms gradually diminished, and by the end of a week the child had apparently recovered. She did not, however, "pick up" rapidly after this illness, and on May 15th (six weeks after the first symptoms) I was again called to see her. The preceding night the ear had commenced discharging thick, creamy pus. The following day I called Dr. Pischel in consultation, as I had noted slight tenderness behind the ear. May 17th this part became oedematous, and May 18th a mastoid operation was performed with the disclosure of a single marble-sized accumulation of pus. Recovery was uncomplicated, but the child, though given every attention, did not thrive, and September 29th adenec-

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

tomy was performed. From this time on improvement was rapid and marked until December, when she again sickened with definite symptoms pointing this time to the involvement of the right ear. Otoscopic examination showed a faint redness of the ear drum. Dr. Pischel, who was again called, practiced mild inflation with temporary benefit. The trouble persisted, however, and on the fifth day paracentesis of the membrana tympani was performed. There was an escape of gas, but no fluid escaped. All symptoms of illness promptly disappeared and the child has remained well since that time. Cultures in this case, obtained from the pharynx and from the aural discharge, showed influenza bacilli.

Louis C., 7-year-old boy. I was called in consultation by the attending aurist. Both ears were affected. The otoscope showed the membrane fiery red. Under treatment by instillations and copious irrigations the inflammation was materially reduced in the right ear and in the left ear recovery seemed complete. After paracentesis of the right ear drum it healed and the boy was discharged as cured. The left ear, however, ached more or less intermittently and its hearing was impaired until four months later, at which time a paracentesis was performed with satisfactory results. Cultures obtained from the pharynx at the time I saw the child contained streptococci.

Robert G., 2-year-old boy. Has follicular tonsillitis. After three days pain in left ear: Examination (manipulation described above) elicits evidence of tenderness. Membrana tympani faintly injected. This case was treated by instillations into the auditory canal and the treatment of the tonsillitis was continued. Recovery was complete within a week. Cultures from the throat showed staphylococci.

While not invariably true it seems to be the rule that the above noted bacterial agents, when present in pharyngitis, cause aural affections varying in frequency and degree with the nature of the germ. Thus, in young children, pharyngitis caused by the influenza bacillus is very likely to be complicated by aural affections. Furthermore, should the ear become involved, the affection is likely to be severe and obstinate. In these cases a slight myringitis may veil a serious condition, and I have found no other treatment so efficacious as early incision of the membrana tympani. In other words, the presence of influenza bacilli in the pharyngeal secretions of a child with aural symptoms inclines to the *diagnosis* of otitis media at least, and from a *prognostic* point of view signifies a rather serious condition for the successful *treatment* of which puncture of the ear drum will prove most satisfactory, and may be indispensable.

Streptococci also cause severe otitis, but as a rule the cases are less obstinate and more amenable to treatment, though paracentesis in these cases also seems to give uniformly the best results. Streptococci cause, usually, an acute suppurative otitis media. Streptococcic pharyngitis, accompanied by swelling of the pharyngeal structures, often refers pain to the ears without actual involvement of the tympani being present.

Staphylococci in cases of pharyngitis are, as a rule, comparatively benign. Even when the tympanum is affected there may be not infrequently only

a serous exudate. This yields in many cases to non-operative treatment.

These three varieties of germs cause the majority of cases of otitis media in this vicinity, and their recognition in individual cases may afford valuable assistance in prognosis and treatment irrespective of associated conditions such as adenoids. Otitis media associated with the infectious diseases may or may not fall into these classes.

NEW AND NON-OFFICIAL REMEDIES.

(Continued from August.)

GUAJASANOL.

Guajasanol, $C_6H_4(OCH_3)(CH_2N(C_2H_5)_2COO)$. $HCl = C_{13}H_{19}NO_3HCl$, the hydrochloride of diethylglycolcollguaiaicol.

Actions and Uses.—It is antiseptic and anesthetic. It is readily absorbed and splits off guaiacol in the organism with marked facility. Its antiseptic power is said to be about equivalent to that of boric acid. Guajasanol has been recommended for the treatment of tuberculosis, both internally and subcutaneously. It is also recommended as a deodorant and is said to have given good service in putrid cystitis. Dosage.—1 to 3 Gm. (15 to 45 grains) in wafers; subcutaneously, 3 to 4 Gm. (45 to 60 grains) in 20 per cent. aqueous solution; locally it may be used in from 0.1 to 2 per cent. solutions. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

HEDONAL.

Hedonal, $CH_3CH_2CH_2CH(CH_3)O.CO.NH_2 = C_6H_{13}O_2N$, a urethane differing from ethyl carbamate, U. S. P., in that the ethyl radicle has been replaced by the radicle of methylpropylcarbinol (pentan-2-ol). $CH_3CH_2CH_2CHOH.CH_3$.

Actions and Uses.—Hedonal appears to have a greater hypnotic effect than ethyl carbamate. It is said to be followed by no after-effects and is oxidized in the body to urea and carbon dioxide. It is recommended in insomnia due to mental overwork or nervous excitement occurring in the course of neurasthenia or hysteria. It is claimed to be particularly useful preliminary to anesthesia, a hypnotic dose being given and anesthesia effected with chloroform after the patient has been asleep for an hour. Dosage.—1 to 2 Gm. (15 to 30 grains), administered dry followed by a swallow of water, or in wafers or capsules. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York.)

HELMITOL.

A name applied to Hexamethylenamine Methylencitrate (which see). Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York.)

HEMICRANIN.

A mixture of 5 parts of acetphenetidin (phenacetin), 1 part caffeine and 1 part citric or tartaric acid.

Dosage.—0.5 to 1.0 Gm. (8 to 15 grains). Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York.)

HEMOGALLOL.

An organic iron compound produced from blood by reduction of its hemoglobin by means of pyrogallol.

Actions and Uses.—It is hematinic. Hemogallol

is recommended in anemia, chlorosis, chronic nephritis, diabetes and in convalescence. Dosage.—0.25 to 0.5 Gm. (4 to 8 grains), one-half hour before meals in powder with sugar or in tablets. Manufactured by E. Merck Darmstadt (Merck & Co., New York).

HEMOQUININE.

Each 30 Cc. (one fluidounce) is said to contain 2.16 Gm. (34 grains) of so-called peptonate of iron (made by adding ammonio-citrate of iron to freshly prepared peptone of egg albumin) and 0.54 Gm. (8½ grains) of so-called peptonate of manganese together with 0.3 Gm. (5 grains) of quinine peptonate (equivalent to 0.15 Gm. (2.3 grains) of quinine sulphate), and 0.08 Gm. (1/9 grain) of sodium arsenate in a menstruum containing 20 per cent. of alcohol with glycerin and aromatics.

Dosage.—8 Cc. (2 fluidrams) three times a day. Prepared by Schieffelin & Co., New York.

HEROIN.

Heroin, $C_{17}H_{17}(C_2H_5O_2)_2NO=C_{21}H_{23}O_5N$, a synthetic alkaloid obtained by the acetylation of morphine.

Action, Uses and Dosage.—See heroin hydrochloride. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York.)

HEROIN HYDROCHLORIDE.

Actions and Uses.—When given in small doses heroin hydrochloride has apparently no effect on any of the vital functions except respiration, which it renders slower, the volume of the individual respirations being increased, but usually not sufficiently to compensate the slowing, the result being a diminution in the total amount of air respired. In large doses it may produce dizziness, nausea and occasionally constipation, and, in poisonous amounts, twitching of the extremities, great exhaustion, and dimness of vision may be added. The temperature becomes subnormal and the pulse rapid and thready. The habit is readily formed and leads to the most deplorable results. It is readily absorbed from all mucous membranes. It lessens irritability of the respiratory center, thus allaying cough, but does not depress the respiration as much as morphine. On withdrawing the drug from habitues there is said to be a tendency to respiratory failure which may be dangerous. Heroin and its hydrochloride are recommended chiefly for the treatment of diseases of the air passages attended with cough, difficult breathing and spasm, such as the different forms of bronchitis, pneumonia, consumption, asthma, whooping cough, laryngitis and certain forms of hay fever. It has also been recommended as an analgesic, in the place of morphine in various painful affections. Toxic symptoms should be treated by the administration of caffeine hypodermically and of hot coffee by the stomach. To avoid respiratory failure in the treatment of heroin addiction, it has been suggested to substitute morphine for the heroin and then treat the patient for morphine addiction. Dosage.—0.0025 to 0.005 Gm. (1/24 to 1/12 grain) to adults 3 or 4 times a day, the maximum dose being 0.01 Gm. (1/6 grain). To children it may be given in doses varying from 0.0002 to 0.001 Gm. (1/300 to 1/60 grain), according to the age. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

HEROMAL.

Each 8 Cc. (2 fluidrams) is said to contain: Heroin 0.0013 Gm. (1/48 grain), sodium hypophosphite 0.03 Gm. (¼ grain) in a menstruum of malt extract with 6 per cent. of alcohol.

Dosage.—8 Cc. (2 fluidrams) every three or four hours. Prepared by Schieffelin & Co., New York.

HEROTERPINE.

Each 8 Cc. (2 fluidrams) is said to contain: Terpin hydrate 0.13 Gm. (2 grains), heroin 0.0026 Gm. (1/24 grain), in a menstruum containing 32 per cent. of alcohol with glycerin and aromatic essential oils.

Dosage.—4 to 12 Cc. (1 to 3 fluidrams). Prepared by Schieffelin & Co., New York.

HETOL.

A name applied to sodium cinnamate (which see) prepared synthetically. Manufactured by Kalle & Co., Biebrich a. Rh. (Merck & Co., New York.)

HEXAMETHYLENAMINE METHYLENCITRATE.

This is the chemical name for a preparation on the market under the names of helmitol and urotropin, new (which see).

This substance, $C_6H_{12}O_7(CH_2)_6N_4=C_{12}H_{20}O_7N_4$, is a compound of hexamethylenamine with anhydromethylencitric acid.

Actions and Uses.—It is a urinary antiseptic and germicide claimed to be more prompt and energetic in its action than hexamethylenamine, acting equally well whether the urine be alkaline or acid in reaction, rapidly clearing it up and allaying pain. Dosage.—0.6 to 1 Gm. (10 to 15 grains).

HOLOCAINE HYDROCHLORIDE.

Holocaine hydrochloride, $CH_3C(NC_6H_4OC_2H_5)(NH.C_6H_4OC_2H_5).HCl=CH_{18}H_{22}N_2O_2.HCl$, the hydrochloride of a basic condensation product of paracetidin and acetparacetidin (phenacetin).

Actions and Uses.—It is a local anesthetic like cocaine, but having the advantage of quicker effect and an antiseptic action. Five minims of a 1 per cent. solution when instilled into the eye are usually sufficient to cause anesthesia in from 1 to 10 minutes. It is more toxic than cocaine and without effect on the pupil or blood vessels. It is not so useful as cocaine when the vasoconstrictor effect of the latter is desired. It is said not to cause the scaliness of the cornea which sometimes results after the use of the older remedy. Dosage.—It is applied in a 1 per cent. aqueous solution. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

HYPNAL.

Hypnal, $C_{11}H_{12}N_2O.CCl_3CH(OH)_2=C_{13}H_{15}N_2O_3Cl_3$, antipyrine combined with one molecule of hydrated chloral.

Actions and Uses.—Hypnal is an analgesic and hypnotic resembling chloral in its action, but said to be less liable to produce injurious effects on the vaso-motor center or the heart. It may be used where chloral is indicated, as in mild forms of mental excitement, incipient delirium tremens, and in insomnia caused by pain. Dosage.—1 to 2 Gm. (15 to 30 grains); although supposed to be less toxic than chloral, larger doses up to 3 Gm. (45 grains) should be used with caution. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ICHTHALBIN.

A compound of ichthyolsulphonic acid and albumin analogous to tannalbumin.

Actions and Uses.—Its actions and uses are the same as those of ichthyol, with the asserted advantage of freedom from such side effects as nausea, eructations, etc. Dosage.—For infants, 0.13 to 0.3 Gm. (2 to 5 grains) in gruel; older children, 0.6 to 1 Gm. (10 to 15 grains), mixed with scraped chocolate; adults, 1 to 1.3 Gm. (15 to 20 grains) in chocolate tablets. Manufactured by Knoll & Co., Ludwigshafen, a. Rh. and New York.

ICHTHAMMON.

The ammonium compound of a sulpho-acid obtained from a bituminous mineral by distillation with sulphuric acid and neutralization with ammonia.

Actions and Uses.—It has the physical properties

of ichthyol, a high sulphur content and, therefore, is claimed to have the pharmacologic and therapeutic properties of ammonium ichthyol sulphonate (see ichthyol). Manufactured by F. Reichelt, Breslau.

ICHTHARGAN.

A compound of ichthyol and silver, claimed to contain 30 per cent. of metallic silver and 15 per cent. of sulphur in organic combination.

Actions and Uses.—It is said to be bactericide, astringent and antiphlogistic. It is reported to combine the bactericidal action of the silver salt with the penetrating and antiphlogistic action of ichthyol. It is recommended in gonorrhea in all its forms as a succedaneum for organic salts of silver. It is claimed to be the strongest in silver content of all the various organic compounds of silver introduced in late years. **Dosage.**—0.04 to 0.2 per cent. solution in gonorrhea; 3 per cent. solution in posterior urethritis; $\frac{1}{2}$ to 3 per cent. solution in trachoma. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York.)

ICHTHERMOL.

A compound of ichthylsulphonic acid and mercury, containing 24 per cent. of metallic mercury. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York.)

ICHTHOFORM.

A compound of ichthyol and formaldehyde.

Actions and Uses.—Ichthoform is said to be antiseptic and antiphlogistic. It is reported to be efficacious in arresting intestinal decomposition and inflammation, whilst non-toxic. **Dosage.**—Internally, 0.6 to 2 Gm. (10 to 30 grains), in powders taken plain, or suspended in gruel or cacao, or as a "shake" mixture; externally as pure powder, as 30 to 50 per cent. triturations, or as 10 to 25 per cent. ointments. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York.)

ICHTHYOL.

Ichthyol consists largely of the ammonium salts of sulphonic acids derived from the tar of a bituminous shale which is found in the Tyrol and which contains the remains of many fossil fishes. The exact composition and nature of ichthyol is still doubtful.

Actions and Uses.—Ichthyol penetrates the unbroken skin and, it is claimed, acts as a vasoconstrictor on mucous surfaces. It has an antiseptic action and is believed to act as an alternative in consequence of the sulphur which it contains. It is recommended internally in phthisis, skin diseases, gout, scrofula, nephritis, etc. Externally it has been applied in erysipelas, burns, chilblains, carbuncles, rheumatism, ivy poisoning, etc., also in uterine and vaginal inflammation, gonorrhea, etc. **Dosage.**—Internally, 0.2 to 2 Cc. (3 to 30 minims) mostly in simple solution in water. Externally, in vaginal, uterine or rectal suppositories, in 0.06 to 0.12 Cc. (1 to 3 minims) bougies, or 1 to 3 per cent. solution for gonorrheal treatment. Manufactured by the Ichthyol Co., Hamburg. (Merck & Co., New York.)

ICHTHYOLUM AUSTRIACUM.

A product obtained by the sulphonation of a mineral oil having a large natural sulphur content, neutralization with ammonia, and deodorization and purification by dialysis.

Actions and Uses.—These are claimed to be identical with those attributed to ichthyol. Manufactured by G. Hell & Co., Tropolau.

IODIPIN.

Iodipin is an iodine addition product of sesame oil containing 10 per cent. iodine, in organic combination.

Actions and Uses.—Iodipin acts in the system

similar to the iodides, being broken up in a manner analogous to that described under bromipin, which see. Its action is more lasting and with less tendency to iodism. Manufactured by E. Merck, Darmstadt. (E. Merck & Co., New York.)

RESOLUTIONS ADOPTED BY THE SAN FRANCISCO COUNTY MED. SOCIETY.

Whereas, Through the great kindness and hearty co-operation of very many physicians throughout the United States, a large number of bound volumes and unbound journals have been sent to this Society for the purpose of re-establishing its library; and,

Whereas, In almost every instance there has been nothing to indicate from whom the various parcels of books and publications came, and,

Whereas, In view of this fact, it has been impossible for the librarian to express the thanks of the Society to the donors, therefore be it

Resolved, That the San Francisco County Medical Society extends its sincere thanks to all those who have so willingly and so graciously contributed to the reconstruction of our library, whoever and wherever they may be, and be it further

Resolved, That a copy of these resolutions be sent to the Journal of the American Medical Association and to the California State Journal of Medicine, with the request that these journals publish the same, and ask other medical journals to do so likewise.

DR. HURLEY HEALTH OFFICER.

Mayor-elect J. J. Hanford, of San Bernardino, Cal., appointed Dr. J. M. Hurley as health officer and Secretary of the Board of Health. Dr. Hurley is a veteran surgeon of the Civil War with a long record in camp, field and hospital.

WASHINGTON STATE ASSOCIATION.

The Washington State Medical Association elected these officers at its 18th annual convention recently, when it was decided to meet at Walla Walla, southwest of Spokane, in 1908, and at Seattle in 1909: President, Dr. C. N. Suttner, Walla Walla; First Vice-President, Dr. W. H. Axtell, Bellingham; Second Vice-President, Dr. R. T. Black, Vancouver, Wash.; Secretary, Dr. C. H. Thompson, Seattle; Treasurer, Dr. L. L. Love, Tacoma; delegate to the American Medical Association, Dr. J. R. Yocum, Tacoma; alternate, Dr. J. G. Cunningham, Spokane. The judicial committee was instructed to take some action relative to the closer cementing of state and county legal and medical societies, as it is desired to bring those two professions closer together for the common good.

WASHINGTON STATE MEDICAL LAW SUSTAINED.

The constitutionality of the Washington state medical practice act has been upheld by the United States supreme court in the case of the state of Washington against O. W. Lawson, manager of the State Medical Institute, charged with practicing medicine without a license. Lawson appealed from the supreme court of the state and the appeal was dismissed. As a result of the action of the United States supreme court Lawson will have to go to the county jail and serve the remainder of a 90-day sentence. He was at liberty on bonds pending the action of the United States supreme court. Lawson was convicted in the trial court and sentenced to pay a fine of \$100 and serve 90 days in the county jail. Lawson was arrested at the instance of the King County Medical society, the case being the first of its kind to go before the highest tribunal in the state.

COUNTY SOCIETIES.**SAN JOAQUIN COUNTY.**

The regular June monthly meeting of the San Joaquin County Medical Society was held at the San Joaquin County Hospital and Farm, which is situated some four miles from the city of Stockton. The members were conveyed to the hospital in automobiles and were entertained by Dr. J. D. Dameron, the Chief Surgeon and Superintendent, who was ably assisted by Drs. Welty, McGurk, Friedberger and Pierce.

Dr. Dameron read a paper on "Surgical Treatment of Suppurative Kidneys." He presented several specimens of kidneys which had been removed, and the most interesting specimen, a kidney with two large stones imbedded, was presented, as well as the patient, who had gained some 30 pounds since its removal. Dr. Welty's carefully prepared histories of the cases were well received by the members present.

The name of Dr. Johnson was presented for membership. The members were shown over the hospital and farm and they all agreed that the institution was second to none in the state. After refreshments the society adjourned to meet after the summer holidays the last Friday in September.

BARTON J. POWELL,
Secretary.

SANTA CLARA COUNTY.

The regular meeting of this Society was held at San Jose, June 19th, with the following present: Drs. Osborne, Jordan, Paterson, Ulrich, Asay, Harris, Lyon, Fraser, Marvin, Wm. Simpson, Newell, Kapp, Jayet, Wagner and Park. Dr. Sanborn of Agnews was the guest of the Society. Dr. Lyon presented a paper entitled Medical Testimony. The discussion was taken up by nearly all the members present, and as the subject is one that every practitioner is interested in, it was decided to invite the members of the Santa Clara County Bar Association to attend a meeting that will be given over to the discussion of subjects that are of mutual interest to the lawyer and the physician.

K. C. PARK, Secretary.

PUBLICATIONS.

Diseases of the Lungs. By Robert H. Babcock, A. M., M. D., author of "Diseases of the Heart and Arterial System," until recently Professor of Clinical Medicine, and Diseases of the Chest, College of Physicians and Surgeons (Medical Department of the Illinois State University) Chicago; Consulting Physician to the Cook County Hospital; Consulting Physician to the Mary Thompson Hospital, Hospital of St. Anthony of Padua, and of the Marion Sims Sanatorium; Fellow and former President of the American Climatological Association; Fellow of the Association of American Physicians; Corresponding member of the Medico-Chirurgical Society of Edinburgh and of the International Tuberculosis Institute, etc. First Edition, D. Appleton & Co. 1907.

Issued as a companion volume to his work on the Heart and Arterial System, this new book by Dr. Babcock is similar in internal arrangement and in external detail. On its title page the author

clearly defines the scope of the book. He tells us, that the "Diseases of the Lungs is designed to be a practical presentation of the subject for the use of students and practitioners of Medicine." We therefore must not expect an encyclopedic and exhaustive treatise, but rather a clear, concise and eminently useful exposition of the subject. Needless to remark this is not the first time that an account of the Diseases of the Lungs has been given us, nor is it the first time that the subject has been approached from the standpoint of practicability. We ask therefore that in the new book there be virtues not extant in other and older books.

Deficiencies in other books may be due to an absence of facts, or may be in a faulty and cumbersome arrangement, or in a method of expression, in a style, which excites neither the applause nor the interest of the reader. It is no enviable task to undertake writing a new book on an old subject, and it is hard to give it a greater reason for its existence than an author's impulse or a publisher's desire. In our estimate of Dr. Babcock's book, it would seem that there are two main points of enquiry. Has he given us a practical book and secondly, has he given us one better than any other which we have? In other words is a distinct want supplied?

The "Diseases of the Lungs" is divided into three sections of unequal length and of more unequal interest. The first section is devoted to the Diseases of the Bronchi. It is in no way calculated to give us a fair estimate of the book; indeed it makes one rather chary lest he tread equally dry and stuffy paths in the succeeding sections. That facts are multitude we can not deny, any more than we can concede that there is present the simplicity of arrangement and of expression which goes so far toward making a practical book. The essential points do not project themselves before the student; the aim at practicability is lost. However, a most uninteresting prologue may precede a most fascinating tale.

The second, the largest and what may be termed the essential section of the book is devoted to the lungs. It fulfills the purpose of the author and excites the interest of the reader. The apologies, in the preface, for the brevity of the chapters on pneumonia and tuberculosis of the lungs may well be waived. The subjects are so admirably discussed and the question of treatment so thoroughly elucidated that were there no other virtues in the book, these would justify its existence. The entire section is eminently practical and one reads it with a sense of security and ease. Facts which were in the background of memories' stage troop forth with renewed life; old scenes, half forgotten, receive new illumination and excite new interest. Knowledge tends toward retrogression; methods are but too apt to become slipshod and jejune. It is imperative that we receive new stimulation and from new sources, not occasionally but often. Any man who reads this section of Dr. Babcock's book must feel a stimulated interest in the diseases of the lungs. In this, as in the other sections the author remembering the aphorism "Verba docent, exempla trahunt" has given us a number of histories of his patients. It would seem that a certain brevity and conciseness would have made these examples more interesting and no less illuminative.

The third section is devoted to the pleura. Had the first section fulfilled the idea of practicability half as well as this one, the distressing necessity of speaking ill of it would never have arisen. Unfortunately there is no mention of Grocco's triangle, which probably had not attained sufficient credit, when the manuscript left the author's hands, to merit a place of honor.

In conclusion one must say that while Dr. Bab-

cock is in no sense a pathfinder, he is a most efficient and reliable guide through the mazes of the Diseases of the Lungs. Except in the first section, the criterion of practicability is well met. Few books, of the scope of the present, have given us an equally good account of the Diseases of the Lungs; many have given a more lucid and practical exposition of Diseases of the Bronchi; and none had given us such a succinct and useful rendition of the Diseases of the Pleura, as the welcome book of Robert H. Babcock.

Progressive Medicine, Vol. III, September, 1907.

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Armory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 290 pages, with 15 engravings. Per annum, in four cloth-bound volumes, \$9.00; in paper binding, \$6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

BOARD OF EXAMINERS.

AUGUST SESSION.

School of Medicine.	Date of Graduation.	Percentage.
PASSED.		
Coll. of P. & S., L. A., Cal.....	6, 18, 07	84.6
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	85.1
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	84.2
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	83.4
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	83.4
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	82.8
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	82.2
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	82.0
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	81.4
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	80.4
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	78.6
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	77.2
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	77.1
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	76.8
Hahnemann Med. Coll. of the Pac., S. F., Cal.....	5, 25, 07	79.8
Hahnemann Med. Coll. of the Pac., S. F., Cal.....	5, 23, 07	75.3
Oakland Coll. of M. & S., Cal.....	5, 21, 07	81.0
Oakland Coll. of M. & S., Cal.....	5, 21, 07	80.2
Univ. of Cal., S. F., Cal.....	5, 14, 07	89.6
Univ. of Cal., S. F., Cal.....	5, 14, 07	89.4
Univ. of Cal., S. F., Cal.....	5, 14, 07	89.3
Univ. of Cal., S. F., Cal.....	5, 14, 07	85.3
Univ. of Cal., S. F., Cal.....	5, 14, 07	85.2
Univ. of Cal., S. F., Cal.....	5, 14, 07	85.2
Univ. of Cal., S. F., Cal.....	5, 14, 07	84.4
Univ. of Cal., S. F., Cal.....	5, 14, 07	84.3
Univ. of Cal., S. F., Cal.....	5, 14, 07	83.6
Univ. of Cal., S. F., Cal.....	5, 14, 07	82.6
Univ. of Cal., S. F., Cal.....	5, 14, 07	82.1
Univ. of Cal., S. F., Cal.....	5, 14, 07	80.1
Univ. of Cal., S. F., Cal.....	5, 14, 07	79.0
Univ. of So. Cal., L. A., Cal.....	5, 14, 07	87.9
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	86.4
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	82.3
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	82.3
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	82.4
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	82.2
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	81.8
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	81.7
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	85.5
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	79.8
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	76.6
Univ. of So. Cal., L. A., Cal.....	5, 15, 06	75.2
Chicago Homo. Med. Coll., Ill.....	2, 24, 87	82.2+10=92.2

School of Medicine.	Date of Graduation.	Percentage.
Cornell University, N. Y.....	6, 12, 07	82.7
Eclee. Med. Inst., Cincinnati, O.....	4, 17, 07	82.3
Hahn. Med. Coll., Phila., Pa.....	5, 24, 06	88.9
Jefferson Med. Coll., Pa.....	6, 3, 07	84.2
Jefferson Med. Coll., Pa.....	5, 3, 07	83.5
Jefferson Med. Coll., Pa.....	5, 94	75.9
McGill Univ., Montreal, Can.....	3, 31, 70	76.8+15=91.8
N. W. Univ., Chicago, Ill.....	6, 20, 07	79.9
N. W. Univ. Med. Sch., Chicago, Ill.....	6, 11, 96	77.6
Geo. Washington Univ., Washington, D. C.....	6, 5, 07	79.0
Royal Coll. of P. & S., Eng.....	4, 29, 97	88.5+10=98.5
Royal Coll. of P. & S., Eng.....	2, 24, 94	81.3+5=86.3
Rush Med. Coll., Chicago, Ill.....	6, 17, 03	83.7
Rush Med. Coll., Chicago, Ill.....	5, 23, 94	82.2+5=87.2
Rush Med. Coll., Chicago, Ill.....	4, 3, 03	77.4
Univ. of Toronto, Can.....	6, 9, 07	82.9
Univ. of Pennsylvania, Pa.....	6, 15, 04	77.2
Victoria Univ., Eng.....	6, 8, 91	86.7+5=91.7

FAILED.

Coll. of P. & S., S. F., Cal.....	6, 6, 07	70.5
Coll. of P. & S., S. F., Cal.....	5, 17, 06	70.5
Coll. of P. & S., S. F., Cal.....	5, 17, 06	69.9
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	73.7
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	72.4
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	71.3
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	64.7
Hahn. Med. Coll. of Phila., Pa.....	5, 15, 01	66.9
Howard Univ., Wash., D. C.....	6, 1, 06	67.6
Univ. of Cal., S. F., Cal.....	5, 14, 07	73.8
Univ. of So. Cal., L. A., Cal.....	6, 14, 06	73.4
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	73.4
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	70.6
Bennett Coll. of Ed. M. & S., Ill.....	5, 2, 05	74.1
Boston Coll. P. & S., Mass.....	6, 20, 06	51.4
Coll. of P. & S., Chicago, Ill.....	4, 13, 93	60.1+5=65.1
Detroit Coll. of Med., Mich.....	3, 78	58.8+10=68.8
Jefferson Med. Coll., Pa.....	6, 3, 07	76.9
Jefferson Med. Coll., Pa.....	6, 3, 07	68.7
Jefferson Med. Coll., Pa.....	5, 2, 93	61.6+5=66.6
Kentucky Sch. of Med., Ky.....	6, 9, 98	61.7
Marion Sims Beau. Med. Coll., Mo.....	4, 10, 97	70.5+5=75.5
Medico-Chir. Coll., Phila., Pa.....	5, 28, 05	70.9
Tulane Univ., La.....	5, 3, 99	61.2
University of Md.....	6, 4, 07	71.2
University of Mich.....	6, 9, 02	52.9
University of Mo.....	4, 27, 97	67.3+5=72.3
University of Pa.....	6, 13, 95	72.8+5=77.8
University of Pa.....	6, 13, 06	76.4

CONDITIONED.

Coll. of P. & S., S. F., Cal.....	6, 6, 07	80.0
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	77.5
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	76.6
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	75.8
Cooper Med. Coll., S. F., Cal.....	5, 8, 07	76.1
Univ. of Cal., S. F., Cal.....	5, 14, 07	81.7
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	82.3
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	81.5
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	79.7
Univ. of So. Cal., L. A., Cal.....	6, 13, 07	78.0
Bellevue Hosp. Med. Coll., N. Y.....	6, 9, 04	77.0
Eclectic Med. Inst., O.....	4, 17, 07	77.4
Jefferson Med. Coll., Pa.....	6, 3, 07	77.7
Jefferson Med. Coll., Pa.....	5, 9, 90	71.2+5=76.2
N. W. Univ. Med. Sch., Ill.....	6, 9, 07	78.9
Univ. of Denver, Colo.....	4, 16, 95	73.0+5=78.0
Univ. of Ill.....	6, 6, 05	75.0
Univ. of Iowa.....	3, 17, 97	75.5+5=80.5
Univ. of Mich.....	9, 90	76.8
Univ. of Mich.....	7, 1, 80	75.4+10=85.4

NEW LICENTIATES.

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EDITORIAL NOTES.

In Los Angeles, in San Jose, in Stockton, in Sacramento, as well as in San Francisco, there have been meetings of the local medical societies where the subject of plague was discussed. That is eminently well. There is just one way, and one only, of determining whether or not plague exists in any place; and that is by a careful inspection of all dead persons over a period of months. And this inspection must be made by one who knows. We know that plague, in the early years of an epidemic, is a very insignificant thing, so far as the number of cases is concerned. We also know that it is not difficult to eradicate, in these early years, *if we know that it exists*. How long did it exist in San Francisco before it was recognized? Nobody knows, for its discovery was almost, if not quite, accidental and it was some time before any systematic examination of the dead was enforced. We all know the history of that former epidemic; the shameful history of denial and concealment and the near approach to "shotgun quarantine." This JOURNAL, in its second number, December, 1902, in discussing this matter, said:

"The medical profession regards the subject of such vital importance to the whole country that it should be thoroughly investigated and given all the publicity possible. If there is danger of the plague spreading, it becomes the duty of medical men to warn the public and to do all in their power to stamp out the disease upon its first appearance, and not wait until it obtains a foothold and becomes too strong to cope with."

Because that was printed five years ago makes it no less true to-day. We should know, and know at once, just where the pest infection may have spread during these past years. Recently Oakland has taken up the work of inspection of the dead; and some cases have been found. Alameda and Berkeley will probably do the same thing, when they wake up. We would most respectfully but firmly urge upon Los Angeles, Sacramento, Stockton and other places to begin the same good work. There are other and smaller communities where the work is no less important, and where the expense can not be borne by the local community, it should be the duty of the state to see that the investigation is made and made properly. We can not afford *not to know* whether we are clean or not, and there is but one thing that is absolutely assured—*we do not know* whether we *are* clean or not. Let us waste no time about finding it out.

Shall we undertake to find out the extent of our infection voluntarily, or shall we wait till we are forced to do it? That is the only matter of choice, for it must be done, sooner or later. A recent news dispatch states that Seattle

has turned itself over to the supervision of the Public Health and Marine Hospital Service for the reason that cases of plague had been found in that community. There doubtless have been cases there for some time, but no careful inspection of the dead was enforced and consequently the infection has been only recently discovered. It might have been expected, for any seaport to which comes Oriental shipping—and rats—is at any time liable to infection. The Norway rat is the greatest traveler on the face of the earth; and the Norway rat has been carrying plague from country to country for a good many generations. Lloyd, in his masterly paper published in this JOURNAL, April, May and June, 1904, has given a perfect indictment of the rat; indeed we may, with a certain amount of safety, assume that plague is a disease of rats to which man, and probably some of the domestic animals, are susceptible. For years it exists in an apathetic state. In London, from 1616 to 1625 there were but a few cases annually, but in the last mentioned year the terrible devastation occurred and something like 37,000 deaths were recorded. It was nine years incubating in the city, and then—. Where pest-rats have gone, there they have carried the plague. But where have they gone? Who can say where, in our own State, for instance, they have gone and how far from the port of entry they have migrated, taking with them their mild form of plague infection? No one, for no one knows. And there is the one place where lies danger; *what we do not know*. Let us, by all means, waste no valuable time in finding out just how far this insidious infection has gone, and then let us get rid of it—as we very well can do. Two things alone are certain; where there are plague-infected rats or squirrels, there will occur occasional cases of plague in man; and where there are cases originat-

ing of plague in man, there we will find plague infected rats—or squirrels. A careful inspection of all dead, for a period of about six months, will pretty conclusively demonstrate the presence or absence of plague in any locality, and it should be done immediately in many sections of our state. The only question is whether we shall do it now, of our own volition, or wait till we are forced to do it by means that will be very unpleasant, to say the least.

Once again the JOURNAL feels called upon to emphasize the fact that all laws regulating the practice of medicine are police measures intended for the protection of the public against predatory greed and ignorance. Neither legislatures, courts nor judges are at all interested in the various schools of the art of treating the sick or injured; they can not, constitutionally, legislate in favor of any class, and medical laws are not in any particular intended to favor or protect any class or school of physicians. If they do in any way protect physicians as well as other members of the body politic, it is incidentally and not essential to their operation. That the public needs all the protection that any legislature can be induced to give, is axiomatic, with us, for we know the gullability of the average sick layman. How can he be expected to know the incurability of *tuberculosis*? And the blind credulity of one in the last stages of *tuberculosis* is not alone a matter of general knowledge, but is so well understood that it has made hundreds, if not thousands, of conscienceless sharks rich. Just as it is well to keep poisoned gumdrops from a child, so is it well to keep the foolish and credulous layman from the greedy clutches of the quack; *we* know it, but neither the child nor the layman can understand these things. All this is apropos of some very good resolutions recently passed by the Los Angeles County Medical Association, and published elsewhere in this number of the JOURNAL. They sound an unmistakable note of endorsement of the present law and of the work the board is attempting in the matter of the suppression of quacks and pretenders, and it would be an excellent thing for every county organization in the state to endorse these resolutions and thus record itself. And not alone must our support be moral; we must aid in beginning the work with our financial support. As already pointed out, in a previous number of the JOURNAL, the board is without funds to undertake these prosecutions, and until a sufficient number of fines have been paid, it will be without resources.

Why should we put our hands in our pockets to aid in this work? Because, incidentally, our profession benefits in reputation by the extinction of the quack. The general public's ignorance, which is appalling, does not permit it to discriminate between the competent physician and the soft-spoken, well appearing, suave and greedy quack. Any one calling himself "Doctor" will be

accepted as such by the public, and the quack passing himself off as a "Doctor"—Quaker, Indian or otherwise—brings discredit upon our whole profession by his very existence and his ignorant acceptance by the public. Of course, there will always be those who are pining for the worship of strange gods. So long as material things wear out, so long as human credulity lasts, so long as many diseases and complications remain incurable, so long as the primal instinct of superstition remains in the human mind, so long will there be those who will not believe in the verdict of the physician, but will abide in a magnificent faith that somewhere, somehow, something, will cure them. We imagine that about as long as there is any human race, there will be eddyism, or some other fool thing to take its place when eddyism shall be forgotten, and there will be venders of "patent medicines" which will appeal to a certain element as the thing desirable above medical advice. That is all right; it is human nature and in no way affects the proposition that we should do our own duty, as we see it, and help to protect the public ignorance, as far as we can, from the consequences of its abiding faith and superstition. It is right, and our duty, to do everything in our power to see that the medical law is supported and lived up to and enforced; and, incidentally, it will enhance the respect paid to our profession when the quack and the pretender shall have been driven out. It has been said that there never was a law that did not do injustice to somebody, and that is eminently true of medical laws in general. But while the occasional case of hardship should excite our compassion, it should not divert our attention from the greater good which is given to the enormously larger number of people. Our law is by no means a perfect instrument; but it is a good, safe one and should be rigidly lived up to. It is the best law we have yet had to protect the public from their folly, and it is the duty of every one of us to make it his personal business to see that the law is enforced, or know the reason why.

There was recently held, in the City of New York, the annual meeting of the American Pharmaceutical Association. It was notable for the reason that at least two distinguished delegates from the American Medical Association were in attendance, and that their addresses provoked very general and very interesting discussion of the question of the relation of the pharmacist to the physician. It may be said, in passing, that the A. Ph. A. represents, more especially, the scientific side of pharmacy, whereas the National Association of Retail Druggists devotes the major portion of its energies to the "patent medicine" business, urges druggists to "boost" almost any old thing that can be sold at a profit—even "peruna"—and mixes, or did mix, unpleasantly in state politics with the purpose of annoying physicians. This last allegation was made by Dr. J. N. McCormack, in his address, and was hotly denied by several of those who subsequently discussed his remarks. It is to be re-

gretted that Dr. McCormack did not have at hand the data to confound these gentlemen and support his statement, which, as the JOURNAL has more than once proved, was absolutely correct. It is unfortunate that we have not the space to publish Dr. McCormack's paper in full, as well as that of Dr. Solomon Solis-Cohen, as they both ring true. That there have been mistakes made on both sides, and that all the right is with neither the physician nor the pharmacist, this JOURNAL has repeatedly pointed out. Indeed, memory fails to recall any publication in this country, medical or pharmaceutical, that has more energetically pointed out the ways in which physicians have been led into doing injury to the pharmacist, than has your own STATE JOURNAL. It is a lot better to work together in peace and harmony than to be eternally at loggerheads, and as we have all made mistakes, let us not waste time in abusing each other—the task of the pot calling the kettle black is neither entertaining nor cleanly—but let us try and “get together” and do away with the objectionable things in both camps. Let the physician enlighten himself on the subject of materia medica and cease from being led into ordering every new and foolish thing that comes along, thus burdening the pharmacist unnecessarily; let him use intelligence in prescribing and thus encourage the pharmacist in compounding and permitting him a decent profit on his prescriptions. The Council on Pharmacy and Chemistry is printing very edifying reports that should be carefully studied by us all to the end that we learn how useless are many of the “ready made” medicines we have been coaxed into using—to the detriment, professional and financial, of the pharmacist. And let the pharmacist cease from counter prescribing and holding himself out as a genito-urinary specialist; let him quit the highly undignified course endorsed by the N. A. R. D. of “pushing” any old “patent medicine” that he can buy for \$8.00 a dozen and sell for \$1.00 a package. Let us each try to clean up our own premises and thus make good use of the energy we would otherwise employ hammering the other.

Elsewhere we publish some remarks from Mr. Alpers, of New York. Hr. Alpers thinks he has been sadly injured by this JOURNAL and we feel somewhat sorry for Mr. Alpers, who for some years has been one of the leading pharmacists of New York City, and a very distinguished member of the American Pharmaceutical Association. He was interested in the chemistry of guaiacol derivatives and a few years ago developed one which he called “triacol” (Alpers). This was exploited to the medical profession by a company formed, presumably, for that purpose, and was found to have some merit, we believe. In the JOURNAL for September, 1906, we called attention to an advertisement of “triacol (Alpers)” that appeared in the current number of *Ainslee's* magazine and which was pretty rank; an out and out “patent medicine” advertisement. Our article was reprinted by the *Journal A. M. A.* and subsequently included in the

booklet gotten out by the Association. Mr. Alpers says he has been injured financially as a consequence, for many of the leading physicians of New York withdrew their patronage from his store. As a further injurious result of our article, he stated that objection had been raised to his holding the office of president of the New York Branch of the American Pharmaceutical Association. He says that he has no control of the Alpers Chemical Company, which promotes “triacol (Alpers),” yet he is a stockholder and a director in it. He presumably permits his name to be used in the title of the company and in connection with the remedy, yet did not know, according to his statement, that the name and the remedy had been exploited exactly as any other “patent medicine,” as witness the following quotations from the *Ainslee* ad: “*Interesting booklet sent on request, telling what triacol (Alpers) has done and is doing in the cure of coughs, bronchitis, etc.*” * * * *At all department stores and druggists. Price \$1.00, express prepaid.*” The JOURNAL feels sorry for the fact that Mr. Alpers has been injured in his good name and in his purse, but it fails to see how he can blame anyone but himself, or his business associates whose commercial activity permitted the use of a name which had, for so many years, been highly honored in the councils of the American Pharmaceutical Association and amongst pharmacists generally. It is unfortunate that such things should occur; very unfortunate both for medicine and for pharmacy. But if they were ignored, how much greater would be the misfortune, for how many more such instances would we see?

What shall we do—what can we do—if we see our community threatened by some epidemic and the threat made more portentous by the wilful blindness, or worse, the political jugglery of those who have been elected to govern it, our supervisors, councilmen, etc? Well, there are several things we can do. We may sit complacently and smile the inward smile of conscious virtue and wisdom and let things take their course, afterward getting the inane “I told you so” out of the system. Or we may slumber peacefully, in the slumber that is so near to death that we won't know when we really *are* dead, and mutter in our sleep that “politics is dirty” and that we shall have none of it; it is not ours to govern the community. Or we can do something a little more intelligent and manly; we can demand—not ask—that rectitude and common sense rather than trickery and peanut-politics guide our governors in safeguarding the public. We have had two excellent examples of this latter spirit in this state very recently. A good live committee of the San Francisco County Medical Society was, let us say to a small extent, instrumental in securing the retirement of the old and inefficient Board of Health and the appointment of a reliable board. Still more recently, the JOURNAL is advised, it came to the attention of the local County Medical Association, that some of the health inspectors of Los Angeles were to be removed—pos-

sibly for some occult political deal. The County Association thereupon put itself on record most emphatically (see report of their last meeting), and appointed a committee to wait upon the council and tell the distinguished councillors what the medical profession thought of the matter. As a result, not only were the removals *not* made, but an extra appropriation of some \$20,000 was made for emergency work, cleaning up, rat killing, etc. Which strikes you as the better course: to slumber along and allow the community to suffer as a result of petty greed for political influence or dirty dollars, or to take an active and intelligent interest in "the science or art of government" and see that those who guide the community in which you live shall properly *guard* it as well?

PLAGUE IN SAN FRANCISCO.

As previously noted in these columns, bubonic plague has existed in San Francisco since May 27, 1907. Up to October 29, 1907, the report is as follows: Total cases verified to date, 78; deaths, 50; discharged as cured, 19; remaining, 9.

The work of plague eradication is being actively carried on by Passed Assistant Surgeon Rupert Blue, U. S. P. H. & M. H. S., assisted by Passed Assistant Surgeon W. C. Rucker, Executive Officer; H. A. Stansfield, bacteriologist, and Passed Assistant Surgeons Carroll Fox, C. W. Vogel, R. H. Creel, Assistant Surgeon J. R. Hurley, Acting Assistant Surgeons Bruce Ffoulkes, J. L. Howard, L. S. Schmitt, P. M. Thomas, G. A. Weyer, C. H. Woolsey, G. M. Converse, and Doctors H. H. Hopkins and A. D. Prentice as district commanders.

Already the anti-pest measures seem to be bearing fruit, as the number of cases is gradually diminishing and the disease is not so scattering as formerly. The recent cases have come from the refugee camp near Lobos Square.

Dr. Blue is carrying on a splendid campaign. A sanitary survey is being made of the entire city, rat poisons are being freely distributed and about 1,000 rats a day are being trapped.

Passed Assistant Surgeon J. D. Long has been assigned charge of the Oakland work under Doctor Blue. Four positive and five suspicious cases have occurred there. Dr. Blue has instituted the same measures in Oakland as in San Francisco, with good results.

PLAGUE.*

By WM. SIMPSON, M. D., San Jose.

In all epidemics it has been found that even skilled physicians fail to recognize the disease, mistaking it for common carbuncle, infection of the lymph glands, typhus, intermittent fever, or anthrax. The disease attacks persons of all ages and social conditions and both sexes.

The ordinary clinical and pathological features of the disease are now well known; it constitutes a symptom-codex, notably in the bubonic form, that affords little difficulty of diagnosis. The appearance of fever, associated with painful glandular enlargements in the groin, axilla, neck or region of the epitrochlear gland, after a period of incubation lasting variously from three to nine days, with

severe headache, nausea and vomiting at the outset, roughly indicates the cardinal symptoms of typical bubonic plague. The fever varies between 103° and 105° F., but often rises as high as 108° F. During convalescence the fever falls by lysis usually, by crisis rarely.

The condition of declared illness is preceded by warning symptoms, sometimes of an hour's and sometimes of a day's duration. These are pallor, depression, pains, headache, thirst, loss of appetite. The onset of the disease is frequently sudden, with sharp, burning, or dull pains on the spot on which later the glandular inflammation, or carbuncle, or the pneumonic manifestation appears. This is followed by a sensation of cold, culminating in a severe, shaking chill, succeeded by fever. The fever may last an hour or a day before the local symptoms appear.

The onset of the disease is almost invariably accompanied by a feeling of dizziness in the head. This may increase to a painful roaring accompanied by indications of great weakness and failing power to control the limbs. Nausea and vomiting frequently accompany this condition, and not infrequently weakness of heart to the point of collapse.

When the patient comes into the physician's hands, the disease is usually well developed. The staring gaze, the bloated, languid, and expressionless face, the injected cornea, the thick, stammering speech, the uncertain gait, give the patient the aspect of a drunken man. This appearance is heightened by the outbreak of bloody boils. The tongue is red and lumpy or else coated with white. The skin is generally hot and burning, especially about the face and trunk, while the pulseless limbs are cold and covered with a slimy sweat.

The breathing is painful and labored, the heart action weak, the arteries are relaxed, the pulse of the radials is dicrotic and approaches extinction, while the heart action is still good.

After taking to his bed the patient lies in a condition of great weakness and tendency to sleep, murmuring softly and disconnectedly, or throws himself about restlessly, talking deliriously, imagining that he must return to his home or his business, or quench his thirst, and he will try to escape if his attendants do not hold him down in bed.

In glandular or bubonic plague the most frequent form of the disease is characterized by the appearance of a bubo, which, sooner or later and to a greater or less degree, develops into an inflamed swelling and affects the surrounding tissues. Any external lymph gland may be the first seat of the disease. In most cases the bubo appears in the region of the thigh or groin, frequently under the arm, or, especially in children, on the neck. In isolated cases the buboes appear on the back of the head, at the elbow joint, the knee caps, the outer or inner ear glands, the hyoid bone, etc.

Pneumonic plague, which is the prevailing form in some plague epidemics, generally follows the course of an ordinary violent catarrhal or croupous pneumonia. When the general symptoms are very severe there may be difficulty in differentiating it

*Read before the Santa Clara County Medical Society, October 16, 1907.

from other inflammations of the lungs without bacteriological examination.

Bubo, plague-pustule, or inflammation of lungs appears at the beginning of the disease, sometimes even before the fever, or develops clearly a few hours or days after. Their appearance is seldom deferred till the third day.

In all forms of plague the early appearance of heart weakness is noted, together with irritation of stomach and abdomen, extreme sensitiveness to pressure in the region of the epigastrium and the cæcum, violent nausea, later, also the expulsion of black fecal matter.

The course of the disease varies, many a case of skin and gland plague proving to be fairly mild and benignant, while pneumonic plague may terminate rapidly in death. In the bubonic form the neck buboes appear to be a condition of the gravest cases, frequently causing death by suffocation. There are also cases in which death occurs before any appearance whatever of localization, before the patient is even made aware, by pain, of his condition. The third, or at most the fourth day, brings a reduction of the fever and very frequently death. If the patient passes the third or fourth day he may remain free from fever and in the end recover, or the fever may come on again and again run its course. On the sixth or ninth day a marked lowering of the temperature and pulse curve almost invariably occurs, so that a prolongation of the disease, even into the second week, may occur, apparently as the result of supplemental infection due to the formation of secondary buboes. Before death the fall in the temperature of the body corresponds with the decline in strength, or it may fall suddenly. It may also rise and even in the dead body be 42° C., and more.

The progress of the disease as here traced may be diverted by other infections. More frequently the accompanying infections are due to streptococci, staphylococci, pneumococci, or the bacilli of influenza. Death may occur at any point of the disease. In cases in which recovery occurs the decline of all the symptoms may take place suddenly or by degrees. When not due to suffocation, caused by neck buboes or pneumonia, death is usually caused by a general failure of the circulation.

Prognosis of the disease is difficult. Recovery occurs in 10 and often in 40 per cent of cases. It may be stated that when the patient is free from fever on the third or sixth day he will probably recover should no complication occur. Mortality is extraordinarily great among the consumptive, the syphilitic, and infants. A second attack of plague is rare. The second attack is generally fatal.

Bacteriology of Plague.—The evidence of the specific organism is especially important in preventing wrong diagnosis. The best protection for physicians and attendants is absolute cleanliness. The great dangers of infection through the sputum of living plague patients and the œdematous exudation from the lungs of the dying are to be especially guarded against. Disinfection must be applied to all excreta of the patient and to all articles that

come in contact with him. For chemical disinfection, solutions of sublimate (1-1000), carbolic solution (3 per cent) cresol soap and chloride of lime solutions are especially to be recommended.

Epidemiology.—It has been demonstrated that plague spreads slowly after its introduction. In many instances it has been found to be confined to the family in which the first case occurred and to persons who have come in contact with the plague patient. It will then make its appearance in neighboring houses or in a distant quarter to which it has been conveyed by persons who have been in contact with the plague patient. In this manner the disease fixes itself when it has found a favorable soil and remains unnoticed during weeks and months, when it often develops quite rapidly and reaches its maximum at first by quick and then by slow degrees. Its extinction is often only apparent. After a period of suspension lasting weeks or months a fresh epidemic not infrequently begins and this may also have still further developments.

An important feature in the conditions affecting plague is the disposition of the disease to confine itself to separate dwellings and to discriminate among the persons resident there. When the persons affected are removed from the house further infection may by care be prevented.

The plague germ is received into the lymphatic system of a healthy organism by small unobserved injuries to the epidermis, slight scratches, flea-bites, and the like. In other cases it may be taken in by way of the mucus of the mouth or throat, the conjunctival sack, or the nostrils, or may be taken into the bronchial tubes by way of the respiratory passages.

That these various means of infection from man to man constitute an open door for transmission when an unclean people live in close, dark, and crowded houses is apparent.** Where light and air are freely admitted and cleanliness prevails plague finds no soil for an epidemic spread.

Prevention of Spread.—Plague is a disease which not only affects rats but is spread by them. Accordingly measures should be taken to quarantine them or to encompass their death speedily.

Cases should be removed to hospitals ventilated and lighted to the maximum as the absolute essentials, whatever other conveniences they may have, for the experience of the East yields this conclusion: The organism does not seem to be able to develop virulently where there are free currents of air, and hence it passes by and little affects well ventilated buildings.

All those who have been exposed to infection or have been in contact with cases are known as "contacts," and should be kept for a certain period in segregation camps where daily inspections can be held until the period of incubation is over. All infected dwellings should be disinfected and lime-washed.

**While contact infection probably occurs in a few cases, it constitutes only a very small percentage of infections. The principal disseminator of plague is the rat, and the ordinary infecting agent seems to be the flea. Ed.

The proper disposal of the dead and the disinfection of effects are, of course, to be looked out for as in an epidemic of any infectious disease. A house-to-house inspection for new cases in places where there are none reported is wise if it is tolerated, but in the Orient this has been one of the most fertile means of causing the concealment of cases, and concealment is regarded as probably the most effective means of spreading the disease.

The Haffkine Prophylactic.—As a preventive measure against plague, Haffkine, an investigator formerly of the Pasteur Institute, has, as is well known, prepared a prophylactic consisting of dead cultures of the bacillus pestis, injections of which are said to confer a considerable degree of immunity against the disease. Haffkine's experiments indicate that the precipitate of dead bacteria without the clear fluid injected into animals excites a marked local reaction with only slight constitutional phenomena, while injection of the clear fluid without the dead bacilli causes marked general phenomena, with slight local reaction. The whole sterilized culture is used as the vaccine against the plague.

Serum Treatment.—Another form of treatment used in Bombay hospitals is the "Heilserum," also prepared under the patronage of the Government at the Parel Government House, by the assistants of Professor Lustig, whose name it bears. The serum has not been extensively employed in India because of its scarcity, and also on account of the prejudices of the natives. It had, however, been used in some 500 cases, with 60 per cent recoveries and 40 per cent mortality, while the death rate in untreated natives may run as high as 80 per cent. Those who are engaged in making the serum maintain that much better results than those indicated in the above percentage can be obtained by increasing the number of healing units in the serum. In one of his articles Lustig states that he succeeded in curing completely 26 out of 30 cases of plague with his serum.

The serum of Yersin, somewhat similar to that of Lustig, has been used in India, but the results obtained by its use were not satisfactory, although it must be acknowledged that the number of cases upon which it was judged was ridiculously small. It may be worthy of note that Yersin's serum possesses agglutination power toward virulent cultures of the plague bacillus.

Quarantine Regulation for the Prevention of the Introduction of Plague into the United States and Its Dependencies.—Passengers should not be vaccinated at nor en route from ports or places infected with plague. Such vaccination increases the liability to plague infection, and, by inducing fever and swollen glands, tends to confuse diagnosis at the port of arrival. This operation must be performed at the port of arrival, and just prior to release from quarantine.

In a port where plague prevails, the vessel should not tie up to the dock. No lines should be passed to the shore that might permit rats on board. Passengers and cargo should be lightered; the crew

not be allowed ashore, and personal communication from shore to vessel shall be under medical supervision. A statement to this effect from a medical officer of the Marine Hospital Service will have weight with the quarantine officer at the port of arrival in determining the questions of disinfection and time of detention.

Mammalian animals, such as dogs, cats, monkeys, mice, etc., which not infrequently accompany passengers as pets, should not be shipped from a plague-infected or suspected port or place.

Inspection of Plague.—In the case of vessels infected or suspected of being infected with plague, place vessel in quarantine in anchorage sufficiently remote from the nearest land or other vessel to prevent the escape of rats by swimming.

Pilots, customs officials, agents of vessels, or others who go aboard vessel may be deemed and be treated as a part of the personnel of the vessel. Such persons shall be detained in quarantine a sufficient time to cover the period of incubation of the disease, if in the opinion of the quarantine officer said persons have been exposed to infection; and their dunnage, if any, shall be disinfected.

In inspecting infected or suspected vessels, the personnel of the vessel shall be inspected after the removal of all clothing which will interfere with a thorough examination of all glandular regions including axillary, inguinal, and cervical.

Female inspectors should be provided for inspection of female personnel. They shall be instructed by the quarantine officer in the general symptomatology and recognition of the disease, but final decision is to be made by the quarantine officer.

Special attention shall be given to the detection of ambulant, or walking, cases, which are a source of great danger and apt to be overlooked, because they present few objective signs to attract attention.

Special attention should be directed to the pneumonic type of the disease. Any person presenting pulmonic symptoms of rapid course, with or without glandular enlargement, should be the subject of special inquiry, and if possible, of bacteriological examination.

In suspected cases, specimens of pus, sputum, or the contents of lymphatic glands may be sent to the hygienic laboratory of the Marine Hospital Service at Washington, for examination.

A vessel from a plague-infected or suspected port, carrying passengers but no ship's surgeon, may, in the discretion of the quarantine officer, be quarantined with all on board, for the full fifteen days from the completion of disinfection.

Treatment of Plague-Infected Vessels.—Persons with abrasions or open sores should have them protected with proper dressings before being permitted to handle persons or articles believed to be infected with plague.

Preliminary Disinfection.—After removal of the personnel a preliminary disinfection of all accessible parts of the vessel must be performed with sulphur dioxide. This preliminary disinfection should be started in the morning in order that guards may be

placed on deck and in small boats around the vessel to detect and destroy any escaping rats.

The water supply must be changed without delay, the casks or tanks disinfected by steam or 10 per cent solution of potassium permanganate, and, after thorough rinsing, refilled from a source of undoubted purity, or the water supply must have been recently boiled. Some water tanks are not readily inspected and cleansed on account of their inaccessibility; these may be rendered safe by leading a steam pipe into them and boiling the water in situ.

Nothing shall be thrown overboard from the vessel, not even deck sweepings. Such material shall be burned in the furnace or in a place specially designated, but not in the galley.

The body of no person dead of plague shall be allowed to pass through quarantine. The body should be cremated, if practicable. If not, it should be wrapped, without preliminary washing, in a sheet saturated with a solution of bichloride of mercury, 1 to 500, surrounded in the coffin by twice the body weight of caustic lime and buried.

Disinfection of Holds of Vessels.—By twenty-four hours' exposure to sulphur dioxide, 10 per cent per volume strength, generated by an approved furnace, or forty-eight hours' exposure to 5 per cent per volume strength, generated by pots.

No person should be allowed on the vessel or around the cargo with bare feet, and the use of proper caution in handling dead vermin is advised.

Living Compartments of all Classes of Vessels.—The preliminary disinfection shall be done with sulphur dioxide and not with formaldehyde on account of the greater potency of the former against animal life.

Note.—Navigation Laws of the United States, section 5, act August 2, 1883:

"Every steamship or other vessel carrying or bringing emigrant passengers, or passengers other than cabin passengers, exceeding fifty in number, shall carry a duly qualified and competent surgeon or medical practitioner, who shall be rated as such in the ship's articles, and who shall be provided with surgical instruments, medical comforts and medicines proper and necessary for diseases and accidents incident to sea voyages, and for the proper medical treatment of such passengers during the voyage, and with such articles of food and nourishment as may be proper and necessary for preserving the health of infants and young children; and the services of such surgeon or medical practitioner shall be promptly given, in any case of sickness or disease, to any of the passengers, or to any infant or young child of any such passengers who may need his services. For a violation of either of the provisions of this section the master of the vessel shall be liable to a penalty not exceeding \$250."

There is a strong probability that the rat was responsible for the introduction of the plague into Oporto; there is little doubt that it was introduced into Santos through the same medium; private advices from Honolulu indicate that it was not there

introduced through food stuffs or merchandise, but that again the rat was the responsible agent.

Rats migrate from ship to ship along docks and quays in search of food, and ships loaded with rice and other food stuffs should therefore be particularly looked after. They should be subjected to fumigation prior to taking on cargo, and subsequently guarded to prevent as far as possible the invasion by rats.

That in the fleas of rats and mice we may find the bacillus of plague, was announced in 1897, giving plague to mice by inoculating them with infected fleas. That this bacillus may be inoculated into rats and mice by the bites of fleas is very possible, and it is proved that the fleas of rats and mice transmit the disease to man.

EFFECTS OF BATHS ON BLOOD PRESSURE.*

By PHILIP KING BROWN, M. D., San Francisco.

Experiments to determine the effects on blood pressure of irritating ingredients added to baths of various temperatures and a comparison of these results with those obtained from a study of the separate effects of the various components of Nauheim baths, have given me definite results. The object of these experiments has been to simplify, if possible, the Nauheim bath or to find a substitute for it, and to ascertain what dangers there may be in using Nauheim baths in cases of high blood pressure from circulatory conditions.

All cardiac therapy, in acute and chronic disease, needs to be based upon a more rational physical basis, and drug therapy in particular in often disappointing to us because of the difficulty of measuring the working capacity of the heart and of influencing evenly and continuously the conditions under which it works. Cabot's experiments on the influence of drugs on blood pressure, during fever, showed plainly under what mistaken ideas we have carried on a good deal of our therapy in cases of severe heart tax.

For two years I have been working along the line of influencing the heart by lessening its work, and recording the clinical manifestations of improved heart action under these conditions. These manifestations are change in blood pressure, rate and evenness of pulse, amount of urine eliminated, and comparative comfort of the patient, especially where nervousness and insomnia are marked. It is, of course, difficult to judge all these conditions fairly, and the experimenter is often blind from over-enthusiasm. The observations, however, were many times made by nurses and the specially-trained attendants who have given baths for me, and the results are so uniform that it seems fair to state them as facts. I shall limit myself, in this paper, to the effects of baths on blood pressure.

The observations were in each case made by two

* Read at the meeting of the Ass'n of American Physicians, Washington, D. C., May 5-7, 1907.

persons. The machine used was a Stanton with wide cuff which was kept on during the baths. One person kept track of the patient's pulse while another made the readings on the mercury column. This was done to minimize the chance of error due to the natural desire to make the readings uniform. In all cases the readings were made three times and an average taken. The position of the mercury at the time of the reappearance of the pulse was taken as a measure of systolic pressure. The average morning pressure taken at 7 a. m. was determined to be about 15 mm. lower than the mean for the day. This pressure is raised promptly 15 to 20 mm. by the first meal and does not fall again until the usual drop in the late hours of night. The meals following the breakfast do not materially influence the pressure in patients who have had a hearty breakfast, but may raise it 10 to 15 mm. for a few hours in some patients.

The first case, exemplifying the above conditions, was a healthy male, aged thirty-seven years, with a slightly rapid heart, but no organic lesion. The following is the mean of the observations made at various times during two years: A fifteen-minute warm bath, 94° to 98° lowered the pressure on an average of 15 mm.; pulse rate varies little or nothing.

A fifteen-minute strong NaCl bath, seven pounds to forty gallons, 94° to 98°, lowered the pressure 10 to 15 mm.; the pulse may be slightly slowed.

A fifteen-minute calcium-chloride bath, one and one-half pounds to forty gallons, 94° temperature, raised the pressure 15 mm. This is true even if the pressure has been raised already by food taken a short interval before.

A fifteen-minute mustard bath, one and one-half pounds to forty gallons, 94°, had the same effect as a warm bath, lowering the pressure 15 mm., without altering the pulse. The skin was scarcely reddened.

Three pounds of mustard in a bath of 94° temperature, given for ten minutes, or the weaker mustard bath, with vigorous friction applied to the skin, has the effect of raising the pressure, and reddening the skin markedly for an hour or more. A fifteen-minute full strength, alkaline effervescent Nauheim bath, at 85° to 94°, raised the pressure rapidly during the first half of the bath, and more slowly during the last half, making it altogether about 20 mm. *This effect lasts during the daytime about four hours.* When the bath is taken at night, 11 p. m., the pressure on the following morning at 7 a. m. is not as low as normal by 5 to 10 mm., showing that the usual drop through the sleeping hours is not as marked as is normal.

In fevers, pneumonia, typhoid, septicemia, and abscess of lung after pneumonia, the blood pressure is always raised by the full strength Nauheim bath. This statement is based on more than 500 observations made in young and old, and includes cases complicated by the common forms of muscular and valve-heart lesions, and arterial changes. In no case was there a record of the pressure before the

acute illness, and during the illness there was no case whose pressure was above 160 mm. at any time. In pericardial effusion, paroxysmal tachycardia, and exophthalmic goitre, no improvement in pressure or pulse was observed.

The duration of the increased pressure in the calcium-chloride bath has not been studied.

When there is no increased pressure following a Nauheim bath, properly given, the muscular tone of the heart is dangerously weak, except in cases with very high pressure. In most cases where the pressure is not raised, the patient has been overtaxed physically in the effort of taking the bath, or the bath has not been strong enough or has been too warm.

In patients with high pressure from arteriosclerosis without kidney lesions, the results are very variable. As a rule the pressure changes but little from any kind of a bath. It is not uniformly raised by calcium chloride or the full strength Nauheim bath and may fall slightly for one-half to two hours after a bath. At the same time the pulse is slower, so that it would seem that the work of the heart had been much lessened for a time.

As blood pressure is dependent on the volume of blood in circulation, the peripheral resistance and the energy of the heart, it seems fair to look for improvement in circulation from anything that lessens the resistance or increases the heart energy. While regularity, slowing and fullness of the pulse follow the bath, there is no evidence that they result directly from the effects of the bath upon the heart in increasing its energy; they are dependent rather upon the lessening of the heart's work by lessening of resistance to be overcome. The lessened resistance alone, without a change in the heart's energy, would lower the pressure, so that the fact of a constant increase in pressure from Nauheim and calcium chloride baths is evidence of an increase in the heart's energy sufficient, not only to overcome the lowering caused by the peripheral dilation, but also to raise the pressure in the dilated peripheral vessels beyond what it was before. This is better understood when we realize that 299 parts of the heart's energy is expended normally in overcoming resistance, for every part expended in maintaining velocity. It is conceivable that the effects of lessened peripheral resistance is to conserve the heart's energy, thus giving more opportunity for maintaining velocity, and keeping up the pressure in the arteries.

CONCLUSIONS. Peripheral dilation from carbonated and calcium chloride baths show, by ordinary tests, that the heart's work is more effective.

In fevers the blood pressure is raised, which is not the case with ordinary heart stimulants (Cabot).

It seems likely that the calcium chloride bath is quite as effective as the carbonated bath.

INSECTS AND INFECTION.*

By WILLIAM B. WHERRY, M. D.

(Frank B. Yoakum Laboratory of the Oakland College of Medicine.)

You will pardon me if I explain that the title of this long paper was chosen for the sake of brevity. I shall speak not only of the role of the *Insecta* in the transmission of infectious agents but also of other *Arthropoda* such as some of the *Arachnoidea*, e. g., the ticks.

Our ideas concerning the hygiene of infectious processes occurring in man and other animals have undergone gradual change. One might consume several hours in simply reading off the names of those who have contributed to this change. While much of the advance made in recent years is to be credited to the medical profession, they in turn were often greatly influenced by those working along strictly biological lines. This is especially true of the development of our knowledge concerning the life history of animal parasites in general. As I shall hope to show, human medicine always must be grateful to workers in general biology and comparative pathology for many fundamental conceptions.

The idea that insects might transmit infectious diseases from one animal to another, dates back many years, and many observers had speculated upon its possibility. But it was one of our own countrymen who first demonstrated to the world the actual role played by a haemophagous parasite in the transmission of a disease. I refer to the remarkable work of Dr. Theobald Smith on Texas fever in cattle.

This noted comparative pathologist worked for three years on the transmission of this disease before publishing his observations. He was so fearful lest his experiments, which had led him to a hitherto unheard of conclusion, might be faulty, that he repeated them over and over and only when repeated confirmatory results were obtained did he give them publicity. The elucidation of the mode of transmission in Texas fever is all the more remarkable when one reflects that the disease is not transmitted by the tick which sucks up infected blood but by her progeny; for having sucked blood, the tick drops off her host, lays her eggs, and dies.

Since Pasteur in 1870 demonstrated the "pebrine bodies" in the silk worm disease of France, it has been known that an insect may lay infected eggs and so hand down a disease to its offspring.⁽¹⁾ In this instance Pasteur was dealing with a disease among insects transmissible through ingesta, traumatic injuries inflicted upon one another and by heredity. Infected eggs could be recognized under the microscope and Pasteur showed that the little caterpillars emerging from the infected eggs must be destroyed in order to prevent their infecting healthy larvae. This discovery was fundamental; and while it meant millions of francs to the people of France, it meant more to the

world—for it was a truly dramatic demonstration of the value of a hygiene based on facts obtained through patient research.

The work of Dr. Theobald Smith was equally fundamental in character in that it presented to the scientific world the first definitely proven instance of the transmission of a parasite from one mammal to another by one of the arthropoda. The parasite producing Texas fever is so small and its wanderings through its definitive host so complicated that until perhaps recently, the stages of its extra-corporeal existence remained unknown.⁽²⁾

Some work done not long ago by Dr. Fritz Schaudinn might instance a series of metamorphoses which probably rival those of the piroplasma in their complexity. Celli and Sanfelice (1891) had described the crescentic forms of a parasite occurring in the blood of a little owl (*Athenae noctuae*) under the name of *Haemoproteus noctuae* (= *Haeteridium*). Schaudinn thought he had demonstrated that this parasite was in reality a trypanosome which maintained its existence by an alteration of generative processes and a change of hosts.⁽²⁾

He not only followed the asexual life history of the "*Trypanosoma noctuae*" within the blood of the owl which acts as one of its intermediate hosts, but step by step, as he thought, cleared up the complicated nature of its extra-corporeal existence within the stomach and tissues of a mosquito (*Culex pipiens*) which acts as its definitive host.

To me, the most interesting discovery made by him does not concern the details of the metamorphosis of the parasite within the insect or the fact that after feeding on infected blood it can reinoculate the disease. Analogous instances had been furnished long before (1898) by Ross in the case of Proteosoma infection of birds; and by Manson and his son, in the case of human malaria.

The most interesting part of Schaudinn's work lies in the fact that certain phases of this trypanosome may also pass through the eggs and larvae into the next generation of perfect mosquitoes. And further, that the insect which has just emerged from its pupa can not transmit the disease at once, but can at the time of its third feeding! However, it might be well to state here that the recent work by Novy and his associates on the natural occurrence of trypanosomes in birds and mosquitoes has thrown doubt on the validity of Schaudinn's observations.

It is practically impossible to trace the origin of conceptions which have led to fruitful results in science but it seems quite possible that that patient missionary physician, David Livingstone, may have influenced some of the early workers by his reports (1857) of the existence of a fatal epidemic disease among animals in the wilds of Africa. This disease was popularly believed by the negroes to be transmitted by biting flies and was known as "Tsetze-fly Disease."

And again, a missionary physician in China, Dr. Manson, between 1879 and 1883, observed that the embryos of *Filaria bancrofti* were taken up by a cer-

*Read at the Thirty-seventh annual meeting of the State Society at Del Monte, April, 1907.

tain species of mosquito and underwent a further development in its body. At this time he believed that the developed embryo might gain access to water and through this medium return again to a human host. Then came the brilliant inductions of Dr. Manson (1896) concerning the life history of the malarial parasite. He was, no doubt, influenced in his reasoning by his previous work on the development of *Filaria nocturna* in mosquitoes, and, probably too, by the work of Dr. Theobald Smith on Texas fever. He reasoned *a priori*:

(1) Since the parasite is encased in the blood cells and can not escape from one host to another by its own efforts, it must be removed by some blood-sucking animal—probably a suctorial insect; an insect common in swampy places where malaria is common—hence probably a mosquito.

(2) That the flagellated forms developing in malarial blood exposed to the air for a few minutes were not degenerated forms but represented the extra-corporeal homologue of the intra-corporeal spore.⁽³⁾

It is interesting to note here that for a long time previous to this the inhabitants of the malarial districts of Italy had believed that the mosquito played some role in the transmission of the disease, and according to Koch, this same belief was shared by the natives of Africa.

Manson's first hypothesis was confirmed by Ross in 1897, when he described the growth of pigmented parasites in the body of an *Anopheles* fed on aestivo-autumnal blood. His subsequent observations on the metamorphosis of the *Proteosoma* of birds and the subsequent researches of Grassi and many other investigators have amply confirmed this hypothesis.

The second hypothesis, in regard to the flagellated forms, received its first support from this country. The flagellated form was considered by Danilewsky to be an independent parasite and he named it *Polymitus*. While Manson, Laveran and Metchnikoff believed it was connected with the further development of the parasites of malaria, Grassi, Celli, Felletti, Sanfelice and others believed that they were degenerated forms of the parasites produced by exposure to a lower temperature than normal. In 1897, Opie noted that there were two kinds of spheres in the malaria of birds—coarsely granular and hyaline forms, only the latter of which developed polymitus forms. At the same time MacCallum made the important discovery, while studying the halteridium of crows, that these flagellated forms were actually *sexual forms*.

Since then our knowledge of the role of insects in the transmission of infectious diseases has taken rapid strides and physicians today must have at least a literary knowledge of the subject if they pretend to qualify in the Science of Hygiene.

We can logically divide the subject matter into three parts:

(1) Insecta, which act as intermediate hosts for parasites.

(2) Insecta and Arachnoidea which act as definitive hosts for parasites.

(3) Insecta and Arachnoidea by which parasites are transplanted mechanically.

I. *Insecta which acts as intermediate hosts for parasites*—The early observations of Manson on the metamorphosis of *Filaria nocturna* in the bodies of certain mosquitoes (*Culex fatigans*) were confirmed and extended by the work of Low in 1900. His discovery of the developed embryos in the mouth-parts of this insect led to the generally accepted theory that the parasites are reinoculated into their definitive host by the bite of certain mosquitoes. This opinion received strong support from the work of Grassi and Noe on the *Filaria immitis* of dogs. These workers were able to transmit the parasites to healthy dogs through the bite of infected mosquitoes (*Culex pipiens*). James showed that in India, both *Anopheles* and *Culex* may act as intermediate hosts for *Filaria nocturna* and the work of Grassi and Noe proves the same lack of specific selectivity in the case of *Filaria immitis*.

However, the work of Dr. Low seems to indicate that the *Filaria perstans* is more particular in its choice of an intermediate host, for out of a large number of careful experiments with many different species and genera of mosquitoes, only one *Taeniorhynchus fuscopennatus* was found suitable for its metamorphosis.

If we consider, for a moment, another form of infection in dogs, due to the *Filaria recondita*, we find that Grassi found its intermediate host to be the dog flea.

In the case of the Guinea of Medina worm, it is altogether probable from the work of Fedschenko in Turkestan—since confirmed by Manson and Blanchard—that some crustacean, like the fresh water cyclops, acts as intermediate host.

II. *Insecta and Arachnoidea which act as definitive hosts for parasites*—I have spoken of the transmission of Texas fever by the *Rhipicephalus annulatus*. In Africa this form of piroplasmiasis, known as Rhodesian or Red Water fever, is transmitted by the *Rhipicephalus appendiculatus*. In Germany it is transmitted by the *Ixodes ricinus*. I will merely mention the piroplasmiasis of sheep and dogs transmitted by the ticks *Amblyomma hebraeum* and *Haemaphysalis Leachi* respectively.

Then I would recall the recent work of Dr. H. T. Ricketts who has shown that the spotted fever of Montana, and neighboring states, may be transmitted from one experimental animal to another by a tick (*Dermacentor occidentalis*). The seasonal occurrence of this disease would seem to indicate that its virus finds a definitive host in the tick or in some mammal other than man.

I might mention here the role of *Culex pipiens* acting as a definitive host for the *Trypanosoma noctuae* as described by Schudinn, but would remind you of the doubt thrown upon his observations by the work of Novy and his associates.

Under this heading we may also include the *Anophelinae* and the *Stegomyia Calopus* which, as

you all well know, act as the definitive hosts for the parasites of malaria and yellow fever. There is no evidence that malaria may be transmitted by heredity through the Anopheles. So far as I know there is only one such instance on record in the case of yellow fever. This is reported by Marchoux and Simon⁽⁴⁾ from Brazil and must be open to question since other investigators have been unable to confirm it.

III. *Insecta and Arachnoidea by which parasites are transplanted mechanically*—Ever since the early experimental work of Simond Hankin and Nuttall, many attempts have been made to prove or disprove the role of the flea in the transmission of Bubonic plague. The frequent association between epidemic plague in rats and in man naturally suggested the possible existence of an insect intermediary. This association seems to have existed even in the earliest historical times. The Biblical account of an epidemic⁽⁵⁾ would seem to show that the relation between mice and rats and epidemic buboes was recognized as early as 1141 B. C.

In the summer of 1905 I had the pleasure of visiting the plague research laboratories in Bombay. Plague was at its height that summer, reaching a mortality of 60,000 per week. The English Plague Commission, headed by Dr. Martin of the Lister Institute of Preventive Medicine, was then actively investigating the role played by the flea in the transmission of plague. I wish I could give you a picture of the enthusiasm with which these young and old men engaged upon their research, in the face of that awful melting heat. Reports of their extensive experiments furnish overwhelming proof that the flea is an important transmitting agent.

I would next speak of a group of diseases in which it is impossible to say at present whether the Arachnoidea concerned in their transmission act mechanically or as intermediate or definitive hosts—though it is probable that their action is mechanical: The recent studies of Novy and Knapp⁽⁶⁾ and others on relapsing fever have thrown much doubt on the protozoan nature of many of the spiral organisms which Schaudinn classed as *spirochetes* and have proven, almost conclusively, that the *Spirillum Obermeieri* is to be classed with the bacteria. A number of these spirillar diseases in animals and man are transmitted by blood-sucking parasites. The spirillosis of fowls by the *Argas miniatus* (Marchoux and Salimberri; Borrel and Marchoux); the cause of bovine spirillosis (*Spirillum Theileri*) by the *Rhipicephalus decoloratus*.

Sixteen years ago Pasternazki found the *Spirillum Obermeieri* viable after some time in the body of the leech. In 1902, Karlinski reported them viable in bedbugs thirty days after feeding on infected blood. From 1904 up to the present, through the work of Ross, Milne, Dutton, Todd, Koch, Novy, Knapp and others, the African "Tick Fever" has been proven to be a spirillosis showing slight variations from that discovered by Obermeier. It is transmitted by the bite of a tick (*Ornithodoros Savignii moubata*), and may be transmitted through

the female and her eggs to her young. Neither Borrel, Marchoux, Dutton, Todd nor Koch have noted any developmental stages inside of these ticks and the work of Novy and Knapp seems to furnish justification for the belief that in these diseases we have bacteria which may be transmitted by heredity to the young of infected ticks.

We will now consider the mechanical action of various biting flies and fleas in the transplantation of parasites. The discovery of trypanosomes in the blood of rats was made by Lewis in 1879. In India, this was followed by their detection in the blood of horses suffering from "surra," by Evans, in 1880. Then came the discovery by Bruce (1894) that the dreaded Tsetze-fly disease of nagana of Africa was caused by a trypanosome. In 1898, Nepveu, in Algiers, described trypanosomes found in eight human beings, but his discovery was overlooked until Ford and Dutton, in 1901, discovered them in the blood of a patient in the River Gambia Colony in West Africa.

The popular conception that nagana was spread through the agency of Tsetze-flies was confirmed by the experimental work of Bruce, who showed that the *Glossina morsitans* was capable of inoculating the parasites immediately and up to within forty-eight hours after feeding on the blood of an infected animal. Since then the experimental work of Rodgers and Schilling in India; Voges in South America; Dutton, Brumpt and Koch in Africa; Curry, Musgrave and Clegg in the Philippines, and many others, have proven conclusively that various Tsetze-flies (*Glossina*), Gad flies (*Tabanidæ*) and stinging flies (*Stomoxys*) act as the chief transmitters of mammalian trypanosomiasis. Musgrave and Clegg also furnished experimental proof that the flea may transmit surra from dog to dog, rat to rat, and rat to dog. The flea had already been condemned as the transmitting agent in rat trypanosomiasis by the work of Plimmer, Bradford, Rabino-witch and Kempner. It is generally believed that the trypanosomes are carried in the simplest mechanical way by these insects. Koch, working in German East Africa, thought he could trace developmental forms in three species of *Glossina* (*morsitans*, *pallidipes*, *fusca*). However, the recent work of Novy in Michigan has upset and thrown much doubt upon the validity of Koch's observations by pointing out the necessity of distinguishing between *pathogenic* forms which may be taken up by flies and mosquitoes and those *non-pathogenic* forms which probably normally occur in many of these insects.

Leaving out of consideration the occasional wholesale dissemination of typhoid bacilli by a contaminated water or milk supply, their transference by contact and the measures to be taken in destroying these parasites as they leave an infected host during the disease and after convalescence, I wish to direct your attention to their mechanical transplantation by the various species of house flies (*Musca domestica*, *Anthomyia canicularis*, *Lucilia Caesar*.)

The important part played by these insects in the

dissemination of typhoid bacilli was shown by Majors Reed, Vaughan and Shakespeare in their report on the "Origin and Spread of Typhoid Fever in the United States Military Camps During the Spanish-American War in 1898." They note that "flies alternately visited and fed on the infected fecal matter and the food in the mess tents. More than once it happened when lime had been scattered over the fecal matter in the pits, flies with their feet covered with lime were seen walking over the food. Typhoid fever was much less frequent among members of messes who had their mess tents screened than among those who took no such precaution."

This report received valuable experimental support from the work of Dr. Alice Hamilton, carried on during the typhoid epidemic of Chicago in July, August and September of 1902. A number of workers had shown that flies walking over typhoid cultures picked up the germs and transplanted them shortly afterwards. But it remained for Dr. Hamilton to demonstrate⁽⁷⁾ that flies caught in undrained privies, on the fences of yards, on the walls of houses, and in the room of a typhoid patient *actually carried* typhoid bacilli. Flies caught in such localities were used to inoculate 18 culture tubes and from 5 of these the typhoid bacillus was isolated.

No doubt the so-called "summer diarrhœa" of children, institutional and acute epidemic dysentery, with which the *bacillus dysenteriae* of Shiga, and related types of bacilli are associated, may be transferred in the same way.

There have been more than two millions of victims to cholera in the past six years. In this disease as in typhoid, man acts as chief carrier. Comparatively recent research has shown that apparently *healthy* individuals may act as carriers for these micro-organisms. The Germans style such individuals *Bacillen-traeger*. It is a well-known fact that patients recovering from typhoid often harbor and excrete typhoid bacilli in their urine for weeks; and the classical case of the bakeress of Strassburg, reported by Kayser, would seem to show that certain individuals may harbor these parasites in their gall bladder and excrete them in their feces for years.

In 1905, Gotschich found typical cholera spirilla in the intestines of pilgrims returned to Tor from Mecca. Cholera had failed to appear in Mecca that year and yet these perfectly healthy individuals had picked up and carried the germs for a period of more than five months. The specific identity of the germs isolated can hardly be questioned since they were also studied by Gaffky, Kohler, Kolle and Meinicke. The propagation of cholera from town to town and from one country to another is, no doubt, through human agency, but in its transfer from individual to individual, flies play an important role. In a disease like Asiatic cholera, where, in the acute stages, every drop of the intestinal evacuations contains literally thousands of spirilla, the chances of their successful transfer by flies can hardly be questioned. This belief is strongly supported by the classic experiments of Hankin in India, who found

cholera spirilla in sterilized milk exposed to flies in an endemic focus.

Then, I have no doubt that flies play an important part in the spread of certain forms of ophthalmia, especially of Egyptian ophthalmia, or what is vulgarly known as "pink eye" in this country. In India I have seen dozens of flies crawling over the purulent ocular secretions of a child afflicted with this disease, and when brushed off, to fly away and alight on the dirty face, and eyes of neighboring children.

Those of us who know enough protect our children from the milk of tuberculous cattle. How well, let me ask you, do we protect their food stuffs against the fly? I would remind you of the interesting observations of Lord⁽⁸⁾ who found that tubercle bacilli, taken up from sputum, undergo a marked proliferation in the intestinal tract of the common house fly and are discharged with its feces. The "specks" of such infested flies contained as many as 5000 bacilli; and according to Lord, thirty infected flies may deposit from 6 to 10 million tubercle bacilli in three days! Please compare these with the comparatively few bacilli to be found in milk of tuberculous origin.

According to L. O. Howard, extended observations have shown that over 99 per cent of the flies found in kitchens and dining-rooms and attracted to food supplies are house flies (*M. domestica*). Then, there are little fruit flies of the genus *Drosophila*, which you have all seen. Their life cycle is no doubt often represented by the vicious circle—eggs laid on over ripe fruit on a dining-room table, taken into the human alimentary tract, passed out with the feces, from which the insects hatch and fly to fruit on some one else's dining-room table. I was accustomed, during my youth in India, to see our food stuffs on and off the table protected by wire screens. It seems that local boards of health could do much to educate the ignorant of the necessity of protecting such food stuffs as milk, butter, bread, cold meats, fruit, etc., from flies.

Chantemesse quotes from an American writer: "It should be more of a disgrace for a house-keeper to have flies in her house than bed bugs in her beds;" but if you will reflect for a moment, many a poor house-keeper is not so culpable as many a board of health, which, year after year, allows piles of horse manure to lie unscreened and so donates to the public an annual visit from one of the plagues of Egypt.

It seems to me that in such a State as California—where such a great variation in topographical and climatic conditions obtain—many problems, connected with the transmission of infectious diseases by hæmophagous parasites, are open to study. We have had plague here; malaria and filariasis have been imported, and may be endemic in some sections.

Certainly there are sections in which diseases, if imported from tropical zones, could flourish.

May I ask what has been done to determine the

presence, bionomics and distribution of such insects as might play a role in their transmission?

(1) In 1884 Balbiani classified these "pebrine bodies" as microsporidia and now the parasite is known as *Nosema Bombycis*.

(2) R. Koch is said to have pictured his observations on its development in three varieties of ticks in East Africa (1905).

(2) By an alternation of generative processes is meant the alternation of a sexual with an asexual method of reproduction. This method of reproduction was first noted by Steentrup in 1842, but probably the first biologist to properly interpret the significance of conjugation among the protozoa was Balbiani who in 1876 observed that a continual asexual division of certain forms resulted in decreased size and a general "lowering of the life energy." He rightly concluded that the purpose of conjugation was to rejuvenate the species. (Calkins.)

(3) Along with the publication of Manson's inductions came the exactly opposite opinions of Bignami who believed that the mosquitoes derived their infection from some as yet unknown stage of the malarial parasite occurring out in nature and subsequently inoculated man with their bite. He believed this opinion was supported in part by the role played by ticks in the transmission of Texas fever and also by the blood inoculation experiments of Gerhardt. But experiments conducted by Bignami and Dionisi failed to substantiate their views. Koch believed that there was truth in both views and further cited the analogy in the transmission of the Tsetse-fly disease—already established by the experimental work of Bruce.

(4) Ann. l'Inst. Past. 1906, xx, no. 1.

(5) 1st Sam., v. and vi.

(6) J. of Inf. Dis. 1906, 3, 291.

(7) Jour. A. M. A., 1903, Feb. 28th.

(8) Pub. of the Mass. Gen. Hosp., 1906, 1, 118.

BRAIN SYMPTOMS OF TYPHOID FEVER SIMULATING THOSE OF MASTOIDITIS.*

By KASPAR PISCHEL, M. D., San Francisco.

Dr. E. W. Day and Chevalier Jackson in a very thorough paper (Laryngoscope, 1904, Vol. XIV), drew our attention to the fact that ear affections are much more frequent in typhoid fever than are usually supposed. This can easily be explained by the fact that a routine examination of the ears of typhoid patients is made in very few hospitals and hardly ever in private practice. In over 800 cases of typhoid fever they found 88 (11.3%) cases of purulent otitis media and 26 cases of suppurative mastoid involvement (29%) of the cases of purulent otitis media. This is a very high percentage considering the fact that those cases had been observed from the very start and treated according to the best principles. How much oftener these complications must occur when the ears are not examined at all!

I would like to report a case of the opposite type that is one in which the mastoid symptoms were so pronounced that typhoid fever was not diagnosed until very late:

On October 31, 1903, Miss M. G. L., 18 years old, was sent to me from Palo Alto by Dr. Clelia D. Mosher. The patient had had measles as a baby and could never hear well with the right ear. This had been discharging for the last five months. The right drum showed a large perforation in the posterior lower segment filled out by a polypus. After this was removed a quantity of membranous detritus was taken out with a probe and tincture of iodine introduced on a cotton carrier. After a few treatments the ear became dry.

Toward the end of November the patient had afternoon temperatures—a rise of from $\frac{1}{2}$ to 1 degree. On December 9 she complained about dizziness. The right mastoid process was sensitive to pressure. Dr. Mosher, after a careful examination, could only find the symptoms of a slight upsetting of the digestive apparatus (coated tongue, yellow skin, headaches) attributed to an error in diet. There was no enlargement of the spleen. On December 10 the temperature was 99, pulse 84; the blood count showed 6000 leucocytes; the urine was normal. That day, during my absence, because of the sensitiveness of the mastoid and the dizziness, a colleague opened the mastoid. The mastoid cells were filled with a yellow watery fluid; swabs remained sterile. On my return December 17, the patient was again put under my care. She was feeling well, only complaining of weakness. The evening temperature was 99.7. On December 19 the temperature rose to 101, going higher, the next few days, to 102.9 on December 21. The patient complained about aching of the eyes and was sensitive to the shaking of the bed. The fundus of the eyes was normal. As the symptoms pointed to meningeal irritation the cerebellar fossa was opened on December 21. Fluid blood was found in the sinus. Aching of eyes and sensitiveness to shaking disappeared. On December 24 the temperature rose to 103.6. I opened the middle fossa, but found no pus. The temperature dropped again to 101.2, rising but slightly the next two days. From December 27 to January 3 the temperature rose to 104.4, pulse 116. On January 3 the sinus was opened and fluid blood found.

During the whole illness the bowels were kept open. The patient was very sensitive to calomel, which caused considerable griping pains. The urine remained normal, repeated blood counts showed from 6000 to 7000 leucocytes, swabs from the wound were either sterile or showed staphylococcus growth. As the condition of the wound did not explain the high temperature nor the pulse indicate any meningeal irritation, I suspected some complication and called in consultation Dr. Herbert C. Moffitt, who found enlargement of the liver and spleen, and ordered the widal test, which was positive. Therefore typhoid fever was diagnosed.

Under Dr. Moffitt's care the patient recovered without any further complication.

The mastoid wound was healed with the exception of a small necrotic spot, which required another operation July 7, 1904, leading to an entire cure by August 6, 1904.

Conclusions: The patient probably had typhoid fever before the mastoid operation. When and where the patient contracted the disease could not be ascertained. The sensitiveness of the mastoid might be explained by its being a locus minoris resistentiae where the toxins created an irritation. I did not see the patient until a week after the mastoid operation. The sterility of the swabs speak against any infection having been present. My second and third operation and the opening of the sinus were certainly unnecessary and useless. Happily, thanks to the aseptic methods, no permanent harm was done. The fact is of some interest that the symptoms of meningeal irritation disappeared after my first operation, and that the temperature dropped considerably after each operation.

This case teaches us the valuable lesson that in a doubtful case of mastoiditis we should make a thorough physical examination, not only of the ear, but of the whole body.

*Read at the Thirty-seventh Annual Meeting of the California State Medical Society, Del Monte, April, 1907.

FUNCTIONAL KIDNEY DIAGNOSIS.*

By W. P. WILLARD, M. D., San Francisco, Cal.

The determination of the functional capacity of kidneys is a subject that has interested the urologist for several years and has become a method of value to the surgeon. The exposing of one kidney with some assurance that the other one is able to perform the required amount of work gives the operator a feeling of safety. Even after exposing both kidneys, as suggested by Edebohls, we are not in any better position to judge of their functional capacity unless gross lesions are present.

The plan followed after obtaining the urine from either kidney by ureteral catheterization was to find the amount of urea per cubic centimeter, the amount of sugar, the freezing point and the microscopical picture of the separate specimens. These three methods have proved of little value from a medical standpoint and have gradually fallen into disuse. In nephritis the kidney condition is only a part of a general one and the toxins are as yet unknown, so it does not seem reasonable to expect to learn much as to the condition of the kidneys by determining their response to such drugs as sodium chlorid, phloridzin, salicylic acid, etc. Neither can anything of value be expected from cryoscopy, where the intake and output cannot be accurately determined. Even if something could be learned in medical cases by determining the functional capacity of the kidneys by subjecting the mixed urine to those tests, they would have to be performed so skillfully that the clinician would be unable to make them.

As the methods have been gradually abandoned by the medical men so they have gradually grown into greater favor with the surgeon. In surgical lesions we are not determining the functional capacity of both kidneys together, but are comparing the work done by one kidney with that of the other one. In doing this we should use at least three tests to avoid error in any one and to draw conclusions get striking differences in the results of the two sides. In quite a few cases of unilateral lesions I have found the figures on one side three or four times those of the other. These tests must be such that they can be made without taking too much time and the technique must be simple so that grave errors are not easily made.

In cryoscopy with ordinary care results can be obtained that are not more than two-tenths of a degree at fault, and for comparison this need not be considered. It requires about twenty minutes to freeze a specimen, and the first part of the time can be devoted to one of the other examinations. After the mercury has dropped two or three degrees below zero it must be carefully watched to see that the rise of the column, due to the release of the latent heat of crystallization, is rapid and to determine at what point it remains stationary, a few seconds, as

later there will be a slight fall below the true freezing point.

The freezing point of a fluid is proportional to its concentration, and for this reason we obtain an idea of the ability of either kidney to excrete solids. Although urine is a complex mixture, we are here obtaining the two specimens to be compared from the same individual.

The following points should be observed and the time of freezing will be shortened and the results will be more accurate. Use a cryoscope that has the stirrer moved by machinery so that its motion may be perfectly rhythmical; have at least two-thirds of the bulb of the thermometer immersed in the urine without allowing it to touch the bottom of the glass; have a thermometer marked in freezing points only; keep the tubes clean, and do not allow too much water to accumulate in the freezing mixture. Make the two tests as nearly alike as possible in regard to the freezing mixture, the amount of urine used and the rate of stirring.

The phloridzin test is one showing the activity of the secretory cells of the tubules. In a functionally impaired kidney the amount of sugar excreted is diminished and the time of its appearance is delayed.

Twenty minims of a half per cent solution of phloridzin is injected hyperdermically and the urine collected from both catheters as soon as sugar is present. This can be determined by examining from time to time with Fehling's solution. The sugar usually appears about a half hour after injection and the specimens of each urine should be collected simultaneously. It is better to make a fresh solution each time, as very often a solution a few days old is inactive, and warm it sufficiently to dissolve all the crystals. For the quantitative examination I have used the Lowenstein's fermentation saccharometer, with which results are accurately and easily obtained. I have in normal cases many times obtained results showing no greater difference than one or two hundredths per cent, although you must wait 24 hours for fermentation, the small quantity of urine necessary makes the test better for our use than the polaroscope. By using three instruments, one for either specimen, and a control of distilled water the results are obtained under the same conditions.

With the Hufner apparatus the quantity of urea can easily be obtained, and although the method is open to criticism I found after comparing the results obtained from the urines of a number of normal cases very little difference in the amount of urea from the two sides. This urine also must be collected from the two sides simultaneously and the amounts of urea per cubic centimeter compared.

The methylene blue test is supposed to test the epithelial filtration. I have not used it, but advocates now admit that, to be of value, a quantitative estimation of the dye is necessary. This is difficult and not reliable. The dilution test has been used by some observers, but it is necessary to leave the catheters in the ureters for three or four hours. The

*Read before the Western Branch of the American Urological Society.

patient is given one or two quarts of water and the freezing points of the urines are obtained from time to time, and also the quantity excreted is measured. The salicylic acid test and the quantitative examination of chlorides might be used, but they are more difficult than the tests described. My experience with blood cryoscopy in conjunction with these tests, although limited, has not been satisfactory. If it is of value the technique must be such that the ordinary worker would find it very difficult.

The microscopical examination is, of course, of great value for diagnosis, but it does not show the functional capacity of the kidney. The urine from a functionally disabled kidney might show very little microscopically, and again a kidney whose function is fairly good may present so many elements that one would be inclined to think the organs very much diseased. Blood cells can often be found in catheterized urine, due to the movement of the catheter in the ureter, and the contractions of the ureter on the catheter, especially if the catheter is left in any length of time.

Many have not tried these tests, thinking that a great amount of time is necessary both in collecting the urine and in making the tests. In ordinary cases enough urine can be collected for cryoscopy in a half hour. This same urine after freezing can be melted and used for the urea test and for microscopical examination. The phloridzin is injected after the ureters have been catheterized, and as soon as sugar appears enough urine can be collected for quantitative examination (about 1 cc.) in a few minutes. The time of collecting the urine samples should not exceed thirty-five or forty minutes, and the examination of the specimens can be performed in about the same length of time.

I think the chief value of these tests is for comparison and not so much in the actual points found. The so-called normal points are subject to so many influences that I do not think we should place any reliance upon them. In a case seen the urine from the right kidney gave a freezing point of -0.4 , while that from the left gave -1.2 ; the sugar on the right side 1.28 per cent, on the left 0.25 per cent. The freezing point on the healthy side was three times that of the other, and five times as much sugar was excreted by the healthy kidney. Where we have such differences I think that we are able to draw some conclusions. In this particular case, a Grawitz of the right kidney, numerous blood and epithelial cells were seen in the specimens from both sides. In a long-standing case of nephrolithiasis of both kidneys, with the urines of both loaded with pus, the question of which side to operate first was decided by finding which gave the lowest points. This one was operated first, and had it not I am sure the patient would not have survived, as the kidney was badly diseased.

In conclusion I will say that in order to appreciate the value of these methods you must become familiar with them.

UTERUS FORCEPS.*

By GEORGE B. SOMERS, M. D., San Francisco.

In operating on the female pelvic organs through an abdominal incision, it is often necessary to grasp the uterus for the purpose of fixing, holding or ele-

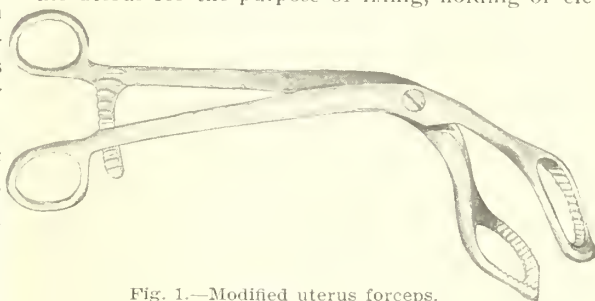


Fig. 1.—Modified uterus forceps.



Fig. 2.—Uterus forceps applied.

vating it. The instruments commonly used are vulsella, which often lacerate the fundus so severely as to produce troublesome hemorrhage and cause a waste of time in repairing the injuries.

The only instrument that I know of devised to hold the fundus without injuring it is one described several years ago by Cullen of Baltimore. I found his instrument inadequate, as it does not grasp firmly enough and allows the uterus to slip. To hold the fundus firmly and with the least possible injury I designed the instrument whose appearance and use are sufficiently shown by the accompanying cuts.

It is needless to say that its chief use is in conservative work. Where a hysterectomy is to be performed, the injuries produced by vulsella may be disregarded.

(The original drawings were made by Dr. A. A. Atkinson.)

*Reprinted from article in The Journal of the American Medical Association. They kindly loaned cuts.

THE EVOLUTION OF THE DISEASE-ENTITY CALLED MANIO-DEPRESSIVE INSANITY, AND ITS MAIN FEATURES.*

By A. W. HOISHOLT, M. D., Stockton.

The term mania, which was in use at the time of Hippocrates, was derived, according to Esquirol, from a word signifying moon, from which the Greeks coined the word maniac, moon-struck and the Latins lunatic, words which are still in common use today.

When Hippocrates wrote his book on sacred diseases it was currently taught and believed that nervous and mental diseases were due to the agency of spirits or demons, which the ancients used in the sense of a guardian spirit—hence the expression, sacred diseases. Although his knowledge of the anatomy and physiology of the circulatory and nervous systems was so crude, Hippocrates was not only ahead of his time, but ahead of men that followed him for over two thousand years, in recognizing that insanity was a disease of the brain—a disease of the body, like other diseases.

In his book, *De Morbo Sacro*, Hippocrates says: (1) "The so-called sacred disease does not seem to me to be any more godly or sacred than other diseases; on the contrary, it seems to me to have natural causes, which bring it about." "I do not believe that the human body can be made unclean by the deity, the impure by the pure." "Were these diseases (insanity in general and epilepsy in particular) more godly than any of the other diseases, then they would develop equally among all human beings and would show no difference between the bilious and mucous constitutions, but the internal occasional cause of the illness lies as in some other important diseases in the brain. Mankind must know that pleasant sensations such as joy, laughter, humor, originate from no other organ than that of the brain; so also sorrow, pain, despondency, and loud weeping. Through this organ we especially perceive, think, see and hear, differentiate between the morally beautiful and hideous, the evil and the good, furthermore the agreeable and the disagreeable, differentiating in part according to laws derived from customs, in part perceiving the use itself. Through this organ we recognize according to circumstances agreeable and disagreeable sensations, through this part (of the body) we do not at all times find pleasure in one and the same object. Through the same organ, however, we fall into frenzy, incoherent talk, and find ourselves surrounded by day as well as by night, by terrible phantoms and objects inducing fear; dreams are started, inopportune errors (illusions), unnecessary sorrows, incognizance of existing circumstances, unwontedness and inexperience: All this emanates from the brain. When the brain has become more moist than it is naturally, it is set into motion; if, however, the diseased part is stirred up, then neither can the sense of vision nor that of hearing

rest, but must soon see this or hear that and the tongue must likewise pronounce that which at every moment is alleged to be seen or heard. So long as the brain remains at rest, so long is the human being in possession of full consciousness. The brain is the messenger of the power of thought." These wonderfully correct ideas as to the functions of the brain and nature of insanity did not, however, prevail long. Insanity came to be looked upon more and more as a demoniacal state, and with the advent of Christianity and the growth of the church-power, the persons so afflicted were believed to be individuals who on account of their sinfulness were possessed of evil spirits and were cared for accordingly. Maltreated by priests and tortured by reason of their supposed witchcraft, the poor wretches who happened to suffer from this disease received no sympathy and no care, which state of things has lasted until comparatively recent times. Even during the last century has progress been slow in lifting the veil of religious superstition and soul-philosophy from the true nature of the insane state.

In his second book of diseases (*De Morbo Liber Secundus*), Hippocrates speaks of melancholy as a disease in which the bile has become depraved, black, and rushing to the brain obscures the animal spirits and produces delirium. He says: (2) "The patient has a sensation as if he were pricked with thorns, becomes afflicted with anxiety, dreads the light and people, loves darkness and becomes tormented with fear. He takes fright easily, sees in dreams frightening images and phantoms of terror, even at times deceased persons. If one does not treat the patient with the greatest care, the disease will follow him until he dies."

Religious melancholy was at that time regarded as dependent upon the course of the stars, its periodicity strengthening this belief. However, not only did the ideas of the ancients on the subject of being possessed by spirits, and as to the influence of the moon and the stars upon the insane, prevail through the middle ages to comparatively recent times, but the doctrine expressed by Hippocrates that bile played an important role in insanity was likewise suppressed with difficulty. Even Esquirol in his publication of 1845 says in one place: (3) "It is certain that the word melancholy often presents to the mind a false idea, for melancholy does not always depend upon the bile." To the manifestations of melancholy enumerated by Hippocrates, Areteus and Galen added fury. When this was present in mania they also made use of the term melancholy. From the time of the last mentioned writer (131-200 A. D.) to the middle of the 19th century great fluctuations and uncertainties of opinion were expressed with regard to what constituted the condition known as mania and melancholia. About the time of Pinel less importance was placed upon the state of the affects in the application of melancholia to mental conditions, and more upon the delusions or fixed ideas present, for which reason Chiarurgi advised to name the condition at that time known as

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melancholia, insanity of fixed ideas, afterwards called monomania by Esquirol. Rusk, in his publication of 1812, divided melancholy into two forms; the one characterized by sadness he called tristimania; the other, in which the opposite emotion predominated, he called amenomania. Esquirol, in his "treatise on insanity," makes use of the term, "lypomania," from a word which means to render sad, and mania a synonym of melancholy. He says: "The word melancholy employed in the language of common life to express that habitual state of sadness from which some people suffer, should be left exclusively to moralists and poets, who in their signification are not obliged to employ so much precision as physicians." In this manner the usage of the two terms, melancholia and mania, fluctuated until the application became definitely settled upon conditions respectively associated with depression and elated excitement.

For centuries it has been known that certain cases of insanity, which were subject to outbursts of excitement, would have these attacks at shorter or longer intervals during which the patients would be lucid or apparently normal. The same was observed with regard to depression. Hippocrates had even observed that attacks of maniacal excitement would sometimes begin with a melancholy disposition. In more recent times it was found that melancholy spells would develop in cases where previously the attacks had been of a maniacal character. This led to the epoch-making publication by Falret in 1851, of his folie circulaire, which three years afterwards was pronounced a disease-entity by Falret and Baillarger, independently of each other. Diagnosis in psychiatry had in all cases been symptomatic prior to the publication of this work by Falret with the exception of the classical research by Bayle on general paralysis, made about thirty years previously. These two investigators were the first to apply the clinical method to the study of mental diseases. The symptomatic classification named these diseases from some prominent symptoms without due regard to etiology, detailed symptomatology, course and termination. In a paper, "On the methods of later psychiatry," Dr. Clarence B. Farrar says: "Not diseases, but individuals, should be the prime objects of study, not the ability to discover symptoms sought which shall go to make up an external pathological entity, but rather to appreciate in its nature the diseased personality by establishing its variations, fine and coarse, in all the phases of mental life, not from an arbitrary norm, but from the 'norm of the individual himself,' which may depart widely from any given average, and which must be determined anew in each succeeding case. The dangers, however, of metaphors symptom-complex into disease-entity are shown no better than by following the part which the amentia of Meynert has played in the history of insanity. During the first decade after it was described in 1881, the diagnosis of amentia found astoundingly increasing favor until in numerous clinics it came to cover perhaps half the cases." In this manner the introduction of new symptom-complexes has

led to a redistribution of the percentages of cases under the new class. Such an accumulation of cases under one heading took place when the appellation, paranoia, was extended until it spread its wings over a number of subforms.

Instead of studying isolated phenomena and placing undue importance upon them Kraepelin followed along the lines of Falret's ideas of circular insanity, making a synthetic study upon a broad and comprehensive basis of the forms of psychosis previously classified under mania proper, melancholia proper, the periodical and circular insanities and a number of transitional forms, grouping them into one large unit or group, the so-called Manisch-depressives Irresein or manio-depressive insanity. The variability of these different forms was found to be due to the varying force with which the fundamental elements of thought, sensation and motility enter into the pathological state of the affects. Under this influence the disease-picture may vary greatly, according to the degree of impulse acting sometimes upon one, sometimes upon another of these elements, leading to the development of a disease-picture of elated excitement or depression, or these conditions may be present alternately in the same attack.

It is characteristic of this group that the attacks terminate favorably, but leave behind a disposition to renewal of the attack, and that transition into other forms of mental disease, such as general paralysis, exhaustion-psychoses, mental enfeeblement or paranoia are not met with.

As to the clinical characteristics of the cases brought together under the head of manio-depressive insanity, we find that the perceptive faculty is only in the mild cases uninfluenced. When the excitement is vivid, it suffers because of the greater susceptibility to diversion, so that the patient is stimulated by every impression without being able to give it proper mental elaboration. Such cases do not show increased attention, on the contrary the apperception is diminished, the units of perception are loosely joined together, reminding one of conditions in fatigue or alcoholic stimulation. During the depressive phase, the conception of what has been perceived is much impeded. Hallucinations are not frequently observed, illusions only now and then. The fleetness of the apprehension facilitates the development of false perceptions—persons and objects are misjudged. There is a disturbance of mental associations.

In mania there is in every concept, according to Kraepelin, a loose connection between the sound picture and its optic written-picture and the motor-speech idea of every word. The association process is not accelerated, as might appear at first glance; the development of the speech-idea is simply facilitated as compared with the elaboration of the concepts. The patients commence to rhyme, make witty remarks, declaim, sing, etc. These fleeting thoughts do not have a fixed aim or object, but stray away, changing the theme with each new external impression, leading to flight of ideas, which in very acute cases may become a flighty confusion.

In exact contrast to the flight of ideas we find a thought-inhibition (*Denk-hemmung*) which may be more or less marked during the depressive phase and in certain mixed forms of manic stupor. The various ideas are developed slowly and only upon forced stimulation—the trend of thought progresses with difficulty. The patients hesitate and are slow in collecting their thoughts.

The mood is usually elevated during maniacal excitement. The patients are jolly, laugh, sing, make fun of everything, the condition of the mood varying from quiet cheerfulness to ungovernable mirth, the latter being often interrupted by outbursts of anger characterized by the most inconsiderate scoldings and disposition to violence. At the same time the mood shows a tendency to make a remarkably quick change to sadness or lachrymoseness, although usually only for a short time. This observation has been taken by Kraepelin to show the close relationship of the maniacal and depressive states. During the latter the disposition is regularly gloomy, hopeless, despairing or anxious, although there probably are cases where the inhibition or resistance is not associated with any marked coloring of the emotions. The patients in the state of depression often have a feeling of loss of internal emotional response. To them everything seems deserted, empty and indifferent. During states of excitement the disease-picture is controlled by a tendency to be busy and to talk. They make jests with those around them, are full of mischief, sing, dance, and decorate themselves with rags, etc. In spite of this excessive motor excitement, which may last for weeks and months, the patients seem to lack a feeling of fatigue, probably in part on account of a dulled sensitiveness, and in part because of the ease with which the central liberation of the movements takes place. The same is true with regard to the talkativeness and maniacal flight of ideas, which finally lack logical connection, becoming what has been termed *logorrhoea*. The handwriting shows the same flightiness, its character varies, the strokes become larger and more hasty, show underscorings, etc. During the phase of depression the contrast of this craving for activity sets in in the form of psychomotor inhibition. The central liberation of acts becomes impeded until activity is entirely done away with, irresoluteness resulting in the mild cases, while in the stuporous forms there is a complete absence of expressions of will-power. These psychomotor disturbances have been studied by Kraepelin by means of a special apparatus (*Schriftwage*), the force and the duration of the muscular movements being graphically recorded and measured, showing marked contrasts in the character of the writing during the periods of depression and excitement. Judgment is quite superficial in mania. The apparent quickness at repartee and witticisms do not reach beyond the level of social chat. Delusional expressions sometimes reveal themselves, although they may not be expressed in earnestness. The patients often apply all sorts of names and titles to those around them; even grandiose ideas are met with in maniacs, reminding one of the demented

delusions of general paralytics, while feelings of insufficiency, ideas of persecution and sinfulness develop in the depressed state. The memory is usually found intact, if one can once get the attention and responses from the patients. Amnesia is only present in cases of extreme excitement and confusion. The facial expression in mania shows all the intermediate states from that of good humor, jolliness and hearty laugh to those of boisterousness and the most ungovernable outbursts of laughter or of anger and irritability. During depression the mien is sober, sad, grave—seldom anxious. The body weight diminishes during the excitement quite considerably, sometimes 50 per cent. Constipation and vomiting spells are sometimes present, which latter in states of depression may be voluntary and practiced to such an extreme as to make nourishment where tube feeding is required very difficult. The appetite is quite good as a rule in maniacs, while during depression one may have to resort to forced feeding. The tongue is more or less coated. The pulse-frequency and respiration are sometimes normal, sometimes increased in mania, decreased in depression. The blood-pressure is in mania low, in depression high. There is a slight rise of temperature in mania—.6° (C) in the evening, .2° in the morning. Vasomotor disturbances, such as cyanosis of fingers and face, are sometimes observed in states of depression. Symptoms of hysteria and other evidence of changes of the nervous system are met with. Headache, noises in the ears, vertigo, *præcordial* anxiety and disturbances of sensibility may be present. Stuporous cases often show complications of tuberculosis and pleurisy. Maniacal excitement is usually preceded by a prodromal state which may last days or weeks and during which headache, loss of appetite and sleep, and often expressions of despondency are noticed. This is then followed by a change to an elated mood; a motor restlessness sets in and the patient has new and great plans to carry out, becomes talkative, etc. The milder forms have been termed *hypomania* (Mendal), the mildest, *mania mitis*. The inexpedient name, *mania sine delirio*, and the French term "*folie raisonnée*" have been applied to forms of hypomania as signifying an insanity without disturbances of the understanding. In the more acute forms, *mania gravis acuta*, "*Tobsucht*," the patient becomes raving, noisy, destructive, violent and confused, hallucinatory and delusional. Still another form not, however, often met with, of a delirious nature (*mania deliriosa*) is characterized by rapid development, dream-like clouding of consciousness with numerous hallucinations and confessed delusions. Kraepelin describes this form as having a sudden onset, one or two days, seldom weeks, and of comparatively short duration—a few days or at the most three or four weeks. The cases usually quiet down rapidly, recovering after some weeks with more or less amnesia of the past. The more common forms of maniacal excitement are slower in improving, and frequently we find insertions of gloomy depression and even temporary stupor, a demonstration which Kraepelin says gives us an understanding of the so-called

mixed forms. While the duration of the average case may be a few weeks, it frequently lasts months and now and then two or three years. The disappearance of the maniacal excitement is followed by a more or less pronounced period of prostration and despondency, which has been looked upon as exhaustion from the severe illness, but which has been regarded by Kraepelin and his pupils as a reversal to the depression characteristic of the disease-entity.

The depressive phase shows mainly the three fundamental symptoms above mentioned; gloomy depression, psychomotor inhibition, and inhibition of the associative processes.

The mildest forms present simply psychic inhibition without hallucinations and without pronounced delusions. Thought-activity is impeded, the mood is gloomy, hopeless. The patient has no aim in life, doubts the existence of God, is disinherited by fate; compulsory ideas often come to the surface, he worries against his will, and is forced to think of obscene sexual ideas in connection with the crucifix or other religious pictures, etc. There is marked loss of energy—he is without courage and without will-power. The least exertion is performed with difficulty. It is for this reason that attempts at suicide are not so common even in cases in which the patient wishes he was dead. As inhibition diminishes and energy returns, despondency still existing, attempts at suicide become more frequent and dangerous, and this may be so, even at the beginning of convalescence. In spite of the marked impediment to apprehension and thought-activity, and in spite of the existence of fallacious ideas, the lucidity and orientation are intact, the patients have in fact usually a vivid realization of sickness, even sometimes a certain disease-insight—sometimes speak of themselves as being crazy.

In severe cases of psychic inhibition a pronounced stupor develops, depression with stupor. The patients are unable to comprehend the impressions from their surroundings, are unable to elaborate them, do not understand the questions put to them and have no idea of their situation.

With these symptoms we find in a third group of cases, various fallacious ideas especially of sinfulness and persecution, which sometimes assume a hypochondriacal tone called depressive *Wahnsinn* (depression with delusions). In some of the cases complicated with delusions the consciousness becomes clouded—the patients sink into a dream-state (*Daemmerzustand*). Besides the maniacal and depressed states we meet with mixed states in which symptoms of each phase are intermingled in the case at the same time.

(a) Weygandt speaks of (4) a maniacal stupor in which a psychomotor inhibition is combined with an elated, maniacal mood where usually an inhibited thought-activity takes the place of the flight of ideas.

(b) An agitated depression, corresponding to the melancholia agitata, the negative picture of the manio-stuporous state, in which we find a gloomy mood combined with excitement and flight of ideas; often an intensely depressive state of the affects with

suicidal ideas; disposition to self-mutilation, refusal of food, self-accusations—the patient being at the same time easily diverted.

(c) A third form he calls unproductive mania in which an elated mood is associated with psychomotor excitement and impeded or impoverished thought-activity—i. e., mania with thought inhibition.

(d) Finally he speaks of atypical mixed states—for instance, depression with inhibition and flight of ideas, instead of impediment of thought-activity.

Manio-depressive insanity is frequently observed among the insane. Kraepelin found it in 10 to 15 per cent of his admissions, and the cause lies chiefly in a neuropathic disposition. Hereditary disposition was found by Kraepelin in 80 per cent of his cases. The disease sets in in more than two-thirds of the cases before the age of twenty-five years, especially as regards the female sex. The development of the disease is as a rule independent of external influences. Diseases with fever, surgical operations, etc., may occasionally play a secondary role. That this is so is best shown by the disposition of the disease to repeat itself. I have seen a case (a young man) pass through eleven distinct attacks during the first year of the disease followed by an increase in the length of the free interval as the disease progressed, the first attacks recurring almost as regularly as the menses of a woman. In another case I could trace the maniacal and depressive phases at irregular intervals over a period of over fifty years, the history in this case showing a gradual diminution in the duration of the free interval. This periodicity has given to the disease in the past the names of periodical insanity, periodical mania, periodical melancholia and circular insanity, periodical paranoia. While the attacks repeat themselves, they vary greatly in character, duration and intensity. The beginning of the disease is in 60 per cent of the cases a depressive phase, especially in young women. The duration of the individual attacks varies greatly. Some last but eight to fourteen days—undoubted morbid mental depressions or excitements have even been known to run their course in one or two days, but as a rule a single attack lasts six to eight months. On the other hand, attacks have been known to last through two or even three to four years. Kraepelin even saw one case terminate in recovery after seven, another after ten years. While the disease is characterized by periodicity, one single attack during life is met with. Weygandt found it in 4 per cent of his cases.

As to the nature of manio-depressive insanity very little is known. The frequent relapses and great variability in the character of the attacks are unsolved phenomena. Meynert has attempted to explain them as based upon periodical disturbances of the state of irritability of the cerebral vasomotor centers leading to an increased or diminished quantity of blood flowing to the brain—i. e., first producing an anemia as cause of the depression, which in turn is supposed to lead to defective nutrition and paralysis, and in consequence cerebral hyper-

æmia, which is said to be the underlying cause of the maniacal excitement. The great variation in body weight might lead one to suspect that metabolic disturbances may play a role; and (5) Carl Lange has in fact described peculiar periodical states of depression with psychic inhibition in which there was a decided uric-acid diathesis. (6) Albrecht claims to have found that one-third of the cases of manio-depressive insanity of all ages show arterio-sclerosis, while cases of alcoholism show it in only 40 per cent of the cases, and quiet patients of dementia præcox in only 10 per cent. Arterio-sclerosis sets in earlier in cases of manio-depressive insanity than in the more quiet class of patients—in one-third of the cases between forty and fifty; in one-half between fifty and sixty; while in dementia præcox it begins beyond sixty years.

(To be Continued.)

THE UNDERLYING CAUSES OF RHEUMATISM.*

By ROBERT CREES, M. D., Paso Robles.

In discussing the underlying causes of rheumatism, it is necessary to carefully consider the present scope of the term, and to remember that its use is not now confined to the pathological condition for which the name was coined, but has been extended to embrace many different pathological processes. In fact, its limits of application in painful or inflammatory affections of muscles, nerves or joints are restricted only by our ability to discover causal factors in these affections that would render a diagnosis of rheumatism unnecessary. In this sense, therefore, the term expresses not a disease but a group of symptoms, one or more of which may result from numberless diverse pathological processes.

These symptoms are pain, tenderness to pressure, and inflammatory swelling in the neighborhood of joints. Constitutional disturbances usually accompany the inflammatory conditions, but pain alone, or pain accompanied by tenderness of the painful parts, or by muscular stiffness without tenderness, may exist without giving rise to any appreciable general disturbance, and herein lies the distinctive difference between the various forms of so-called rheumatism.

If, therefore, we are to consider the application of the term rheumatism in its present broad scope, no single etiological factor can account for the great degree of variance in symptoms, and it becomes necessary to speculate on the possible causes of these symptoms. There are, of course, numerous well-known diseases with symptoms readily mistaken for those of rheumatism, yet even if we exclude all diagnostic errors from this source, there still remain at least four different conditions that may produce the symptoms of rheumatism. They are infection, in-

testinal autotoxæmia, metabolic disturbances and arterio-sclerosis.

That infection is one of the causes of rheumatism, particularly of the acute and subacute articular types, is now a well established fact. The only question to be settled regarding the etiology is whether the symptoms are due to a specific micro-organism, sometimes acting alone and sometimes in conjunction with other infectious organisms, or whether any of the infectious micro-organisms might not under certain conditions give rise to the articular outbreaks. Recent investigations strongly favor the theory of a specific etiological agent, the investigators contending that, where the symptoms occur as a complication of other infectious diseases, they are due to a mixed infection, the specific agent of rheumatism being superimposed upon that of the original infection, the joint symptoms resulting from the new infection. This of course only holds good for typical acute and subacute articular rheumatism.

There are articular inflammations that we know to be due to the presence in the joints of certain other microbic agents, such as we find in gonorrheal and pneumococcic inflammations, but here the whole course of the disorder is entirely different from that of articular rheumatism, and should not be classed in the same category. That an infectious foci can not always be detected in these cases, is no proof that it does not exist. Careful examination will oftentimes enable us to discover it in the most unlooked-for localities, such as the nasal sinuses, nasopharynx, etc. The gastro-intestinal canal may furnish the infection, and it may even be presumed that the smoldering elements of infection be present on cardiac valves damaged by previous attacks of rheumatism. Very small foci of infection are capable of furnishing sufficient toxins to produce articular and constitutional symptoms, as in a case of obstinate subacute rheumatism, where several small pustules were discovered accidentally on the patient retching during an examination of the mouth. The pustules were situated at the apices of both tonsils, hidden by the pillars of the fauces, and only to be seen when carried forward by the effort at retching. As rapid recovery from the rheumatism symptoms followed the puncture and treatment of these pustules, it was presumed that they were the source of the infection. There is one point worthy of notice in relation to the infectious forms of rheumatism. It is that they are usually of an articular type, and are accompanied by certain symptoms common to infectious diseases—i. e., fever, sweating and leucocytosis. On the other hand, the muscular affections and the neuralgic conditions that are for want of a better name classed as rheumatism, frequently run their course without any apparent constitutional symptoms whatever, and leucocytosis is the exception rather than the rule. As they bear none of the marks of an infectious disorder, we must look to other than infectious causes for their origin. Disturbed metabolism may cause the production of substances that are capable of giving rise to painful

* Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

and inflammatory lesions, as in gout and oxaluria, and it is within the bounds of possibility that many other poisonous substances may result from faulty digestive and metabolic processes, which finding their way into the general circulation, thus produce the indefinite symptoms of muscular rheumatism.

But few words are necessary in closing to illustrate the arterio-sclerotic type of rheumatism. It occurs in elderly individuals in whom the signs of senile decay are plainly evident and is characterized by more or less constant pain of the extremities, particularly the feet and legs, and is accompanied by muscular stiffness. The pains and stiffness are most evident on attempting to walk after resting, but improve somewhat on moderate exercise; are not troublesome at night when the patient is in bed; are not accompanied by constitutional disturbances, nor any marked blood changes, although in some cases there may be indications of interstitial nephritis. The symptoms in these cases I have always looked upon as due to senile arterial changes.

MEDICAL TESTIMONY.

Abstract of a paper by Dr. S. B. Lyon, San Jose, read before the Santa Clara County Society.

The author calls attention to the present unfortunate and rather humiliating condition into which medical expert testimony has fallen, and points out the manner in which the average physician when placed on the witness stand is made to appear as the mere plaything of the attorneys in the case. He does not believe that this is due to the fact that the average physician knows less medicine than the best lawyer, but he believes that it is due to the fact that the average lawyer prepares himself most carefully and, on the particular points at issue, is in court a better physician than is the best physician a lawyer. In other words, the physician seldom tries to know well the relation of his profession to the law. And I therefore bring before you to-night the following points on medical testimony for discussion:

1. The scope of medical science has so broadened that none of our best colleagues can claim to-day to be a specialist of all its respective branches.

2. The principal qualification for a medical witness that the law prescribes at present is "ordinary skill."

3. No case of medical testimony shall be undertaken before a perfect knowledge of the case is arrived at.

4. The physician and attorney of the same side of the case shall have a thorough consultation before the case comes up, in which the physician shall inform the attorney of all the probabilities of the testimony.

5. When the physician takes the witness stand he shall bear in mind three successful examinations before his testimony will gravitate the scale of justice in favor of the side he was a witness for. These examinations are:

- (a) The direct examination by the counsel for the side on which he appears. In this examination, whether he is to testify as to fact she has observed as a result of an examination, or as to the expression of an opinion in answer to a hypothetical question, his answer shall be short, using plain words to express his ideas, in a loud, clear voice, and be positive in his statements as to location, measurements, dates, personal observation and opinion. No hear-

say or citation of a case to be used for the support of his opinion.

- (b) The cross-examination by the opposing counsel. In this examination he shall collect all his powers and control his senses, to be cool, and not to forget for one moment that he is authority himself, and is not before a board of examiners to obtain his license to practice. He shall have his attorney at his side, and on his feet to object to any question that does not pertain to the case. He shall not lower his dignity to volunteer discussion on all topics of medicine with a layman, but gently and coolly advise his cross-examiner to take a course for that in the proper place equipped for that purpose. He shall by all means ask the court to modify the answers "yes" or "no," which the cross-examiner likes to take advantage of. To any authority quoted to him by the cross-examiner, even of his own beloved great teacher, he shall consider his own authority the best.

- (c) The re-examination by first counsel. This examination is either for the explanation of some variations in the cross-examination, or to enter the gates opened by the careless cross-examiner. In this examination he shall be especially careful not to introduce any new facts or theories in addition to what has been stated in the direct examination, as this would render him liable to a further cross-examination.

6. Whereas the domain of medicine, as stated in paragraph 1, has so broadened that every branch of it constitutes a specialty in itself, the medical organizations of the different states shall request their respective legislators to pass a law that only specialists in their respective branches shall be eligible to testify as experts, and shall receive a remuneration for their services, prescribed by their respective fee bills, whether called by the state or otherwise, and not as some of the states consider, that the special skill of a physician is not his personal property (Alabama, Arkansas, Colorado, Illinois, Minnesota and Texas). See A. N. Taylor, page 172.

7. All the medical societies at their regular meetings shall from time to time consider the question of medical testimony and as much as possible bring their members to accord, so as to avoid controversy with their colleagues on the witness stand. This could be brought about by the following:

- (a) To promote a more fraternal feeling towards each other through the influence of the medical society.

- (b) Opposite medical witnesses shall consult and deliberate upon the merits of the case before they take the witness stand.

- (c) Each of us shall seek for fame mostly in the midst of our medical society, every member of which shall extend his hand of charity and good feeling to encourage and assist his colleague in every way he can.

COUNTY SOCIETIES.

LOS ANGELES COUNTY.

At the meeting of the Los Angeles County Association held October 11th, the general subject of discussion was plague. Dr. C. B. Nichols delivered the principal address, and reviewed the etiology, pathology, symptoms, modes of transmission and prophylaxis. The discussion was further continued by Dr. N. K. Foster, Secretary of the State Board of Health, who dilated upon what was being done in San Francisco and elsewhere to limit the spread and eventually eradicate the disease. It was further discussed by Dr. Brooks of the Marine Hospital Service and Dr. Powers, health officer of the City of Los

Angeles. Dr. F. C. E. Mattison and Dr. Albert Moore called the attention of the association to the fact that the City Council was apparently about to reduce the working force of the health department, and intimated that this was intended for political reasons. In view of these facts, the following resolutions were adopted:

WHEREAS, The Los Angeles City Council for some unknown reason have passed an ordinance abolishing three sanitary, two milk, one lodging house and one quarantine inspector, the Los Angeles County Medical Association deprecate such action as it seems both unwise and unsafe, especially at this time when we are threatened with an outbreak of bubonic plague;

THEREFORE, BE IT RESOLVED, That it be the sense of the meeting that the Los Angeles County Medical Association condemn any such action by said body;

AND BE IT FURTHER RESOLVED, That a copy of these resolutions be presented to the council at its meeting tomorrow morning, also that a copy be sent to the mayor and the public press.

A committee of five, consisting of Drs. George L. Cole, Stanley B. Black, James P. Booth, C. B. Nichols and F. W. Steadum were appointed to attend a meeting of the council on October 12th, and in the name of the association protest against any reduction in the health force at this time. This committee was supported by the mayor and city health board, and the results of its efforts were entirely successful. No reduction was made in the working force of the health department; in fact, \$20,000.00, above ordinary expenses was appropriated for general cleaning up of the city.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. C. R. Harry, September 27, 1907. Dr. Hammond in the chair; Dr. R. B. Knight was appointed secretary pro tem because of the absence of Dr. B. J. Powell, who had been unexpectedly called out of town. The minutes of June 28th were read and approved. Members present were: Drs. R. R. Hammond, C. R. Harry, Minerva Goodman, Mary C. Taylor, Margaret H. Smyth, H. E. Sanderson, J. D. Dameron, H. N. Cross, J. P. Hull, F. R. Clarke, S. W. R. Langdon, E. A. Arthur, W. W. Fitzgerald, A. W. Hoisholt, E. L. Blackmun and R. B. Knight. The name of Dr. B. F. Walker was proposed for membership by Drs. Hull and Cross and referred to the usual committee.

The Bubonic Plague situation was informally discussed by the members present. The president appointed a committee consisting of Drs. Langdon, Arthur and Harry to act with the State Pure Food Commission. The paper of the evening was read by Dr. Harry entitled "A Case of Appendicitis With Unusual Complications," and was widely discussed by those present. After refreshments the Society adjourned.

R. B. KNIGHT, Secretary Pro Tem.

SANTA CLARA COUNTY.

The regular society meeting was held October 16th with the following present: Drs. Osborne, Jordan, Ulrich, Belknap, Snow, Hopkins, Newell, Cooper, Beattie, Asay, Whiffen, Paul, Simpson, Kapp, Wagner, Harris, Hervey, Walter and Park.

Dr. Wm. Simpson presented a very able paper on "The Plague," giving particular attention to the different forms assumed by that malady. (See The Journal, this issue.)

Drs. Asay and Beattie told of their experiences with the plague, during their residence in the Orient.

Members of our San Jose Board of Health told of their work of cleaning up our city so as to prevent as far as possible any chance of the disease getting a foothold here.

On November 2d we meet with the San Benito County Medical Society at San Juan and a large delegation will go to that city.

K. C. PARKS, Secretary.

SANTA CRUZ COUNTY MEDICAL SOCIETY.

The following resolutions are very timely and worthy of careful consideration and endorsement by other county societies:

WHEREAS, It seems to be a common custom among Druggists to prescribe for any person applying to them for medical aid; and whereas the larger part of such prescriptions call for some one of the so-called Patent Medicines; and whereas such prescribing places the value of patent medicines as of more efficacy in the estimation of the patient than the medicines prescribed by the regular authorized physician; and whereas such druggist prescriptions work a financial hardship on the physician, and at the same time is of no advantage to the druggist; therefore

"BE IT RESOLVED, That the Santa Cruz County Medical Society, in regular session, Oct. 7, 1907, dose condemn the practice of druggists prescribing, and will, as far as possible, discontinue its patronage of those drug stores which continue to prescribe any remedy whatsoever.

"BE IT FURTHER RESOLVED, That the Secretary of the Santa Cruz County Medical Society be and is instructed to send a copy of these resolutions to every druggist in Santa Cruz County."

SHASTA COUNTY.

Proceedings Shasta County Medical Society, October 19, 1907.

Shasta County Medical Society met in regular session at Mammoth Copper Co. Hospital, Kennett, Cal., October 19, 1907, the Society being the guest of Dr. C. J. Teass.

The morning session was taken up with visiting the hospital, which is one of the most up-to-date in Northern California. Dr. C. F. Welty of San Francisco, performed a mastoid operation, which was much appreciated by all present, after which a chicken lunch was served. President R. F. Wallace presided at the afternoon session and the following papers were presented:

1. Indications for operation for chronic mastoiditis and suppurative conditions of the middle ear, Dr. C. F. Welty, San Francisco, Cal.
2. Diagnosis of typhoid perforation, Dr. E. J. Cornish, La Moine, Cal.
3. Sporadic dysentery, Dr. A. B. Gilliland, Cottonwood, Cal.
4. Gonorrhea, Dr. S. T. White, Redding, Cal.
5. Injuries to the Chest, Dr. B. F. Saylor, Redding, Cal.

After a lively discussion of all papers the business meeting followed. The treasurer's report for the past year was read and adopted.

Drs. J. P. Sandholdt, Wm. C. Tuckerman, A. A. Milliken and M. G. Varian were elected to membership.

It being the time for the annual election of officers, the following were elected:

President, Dr. C. J. Teass, Kennett.
Vice-President, Dr. B. E. Stevenson, Redding.
Secretary-Treasurer, Dr. Phil. H. Weber, Redding.
Executive Committee, Drs. E. J. Cornish, S. T. White, R. F. Wallace.
Trustees, Drs. Robt. T. Legge, C. E. Reed, J. H. Soothill.

A vote of thanks was given Dr. C. F. Welty for

his kindness in coming to Kennett and operating before the society; to Dr. H. B. Graham for providing the patient and to Dr. C. J. Teass for the excellent entertainment he had provided for us. A visit was then paid to the immense smelter of the Mammoth Copper Co., which appealed greatly to all, after which we returned to the hospital, where an elaborate turkey dinner awaited us and to which all did justice.

The following were present: Drs. Wallace, Saylor, White, Lawry, Stevenson, Weber, Soothill, Varian, Gilliland, Cornish, Milliken, Frizell, Teass, Graham, Tuckerman, and Sandholdt, and all state it was the best meeting in the Society's history.

PHIL. H. WEBER, Secretary.

PUBLICATIONS.

The Rise of Man. A Sketch of the Origin of the Human Race. By Paul Carus. The Open Court Publishing Company, Chicago, 1907.

Diseases of the Rectum. Their Consequences and Non-Surgical Treatment. By W. C. Brinkerhoff, M. D. Orban Publishing Co., Chicago, 1907.

Plant Breeding. Comments on the Experiments of Nilsson and Burbank. By Hugo de Vries, Professor of Botany in the University of Amsterdam. The Open Court Publishing Co., Chicago, 1907.

A Practitioner's Handbook of Materia Medica and Therapeutics Based Upon the Established Physiological Actions and Indications in Small Doses. By Thomas S. Blair, M. D., Member American Medical Association, Pennsylvania Medical Society, Harrisburg Academy of Medicine, Member Visiting Staff of Harrisburg City Hospital, etc. Published by The Medical Council, 4105 Walnut Street, Philadelphia, 1907.

Woman in Girlhood, Wifehood and Motherhood. Her Responsibilities and Duties at all Periods of Life. A Guide in the Maintenance of Her Health and that of Her Children. By Myer Solis-Cohen, A. B., M. D., Instructor in Physical Diagnosis, University of Pennsylvania; visiting physician to the Hospital for Diseases of the Lungs, Chestnut Hill; assistant physician to the Philadelphia General Hospital; physician to the Children's Dispensary of the Jewish Hospital, Philadelphia. The John C. Winston Co.

A Text-Book of the Practice of Medicine for Students and Practitioners. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; physician to the Jefferson Medical College Hospital; one time Professor of Diseases of Children in the University of Pennsylvania, etc. Lea Brothers & Co., 1907.

The appearance of a new edition of this text-book does not call for an extended review, since both the scope and the manner of presentation of the earlier edition are already well known. The general arrangement of the subject matter is, for the most part, like that of the average book of its kind. In some respects this is very unsatisfactory and inconsistent. Thus, in the opening chapter on infectious diseases, are included diseases due to known

bacteria, as well as diseases the etiological factor of which is unknown; as measles, smallpox and yellow fever; any or all of which may be due to an animal parasite. Toward the end of the book may be found the section devoted to diseases due to animal parasites, like malaria, African lethargy and filariasis. Malaria is certainly an infectious disease if yellow fever is to be included in that class. All the evidence certainly points to the latter being a disease of protozoan origin.

In the rewriting the author has made excellent use of the results of recent investigations. This is noticeable in many places, particularly in the discussion of infectious diseases, notably those met with in tropical climates. The amount of space given to the latter undoubtedly reflects the increased interest in them largely stimulated by the late territorial acquisitions of the United States. Criticism of unimportant details would hardly be justified in face of the general excellence of the work as a whole.

A. J. L.

Hints on the Management of Commoner Infections.

By R. W. Marsden, M. D., M. R. C. P., D. P. H. Honorary Physician to the Ancoats Hospital, Manchester; Honorary Assistant Physician to the Manchester Hospital for Consumption; formerly Medical Superintendent Monsall Fever Hospital and Clinical Lecturer in Infectious Diseases, Owens College. E. B. Treat & Company, 1907.

This small volume of 128 pages contains a resume of the principles of treatment to be observed in the management of infections or intoxications which are due to the direct or indirect action of micro-organisms. The book is written for practitioners and students. Written in unusually good English, the manual also has the advantage of being extremely well printed. The opening chapter considers general measures employed in handling fever cases. The condemnation of the routine use of antipyretic drugs will receive the support of intelligent practitioners. Of the use of alcohol in fevers the author says: "It may be of value as an occasional stimulant, but even under such conditions it is questionable whether, in cases where a repetition is likely to be called for, its beneficial effects can be compared to the result obtained from a fomentation or stupe applied to the precordial region in some cases, or to favorable effects of a hot or mustard pack in others." The bulk of the volume is given to a discussion of the treatment of specific infections. In this part, nor elsewhere, do we find any reference to Wright's method—the so-called opsonic method. Finally the work is concluded with an appendix containing practical directions for isolation and disinfection.

A. J. L.

A Treatise on the Principles and Practice of Medicine. By Arthur Edwards, A. M., M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Northwestern University Medical School, Chicago; Attending Physician to Mercy, Welsey Hospitals, etc. Lea Brothers & Co., 1907.

This large volume of over 1300 pages is a new book on medicine written by a teacher and practitioner of long experience. Differing little in scope from many similar works, it presents the same traditional classification, although characterized, perhaps, by a clearer and more orderly arrangement than usual. Careful use has been made of types of various prominence to facilitate the finding of a topic and the appreciation of its importance. An unusual amount of space has been devoted to treatment, to the detailed consideration of drugs, and to numerous formulae and prescriptions. The reader

will also find a large number of tables giving the differential diagnosis of diseases likely to be confused, or in many instances of entire subjects, such as those of the liver and kidneys. The results of recent experimental investigations have been well incorporated in the text, and brief references to the historical side of the subject materially enhance the merits of the volume. On the other hand pathological anatomy is less satisfactorily handled. The purely clinical descriptions are generally good, particularly those of tuberculosis and typhoid fever. The section on diseases due to animal parasites is disappointing. Taken as a whole the author has accomplished his task well, and there is little doubt that the book will earn a merited success.

A. J. L.

The New Hygiene Three Lectures on the Prevention of Infectious Diseases. By Elie Metchnikoff. With preface by E. Ray Lankester. W. T. Keener & Co., Chicago, 1906.

This small volume of 104 pages contains the three Harben lectures delivered last year by Professor Metchnikoff on the Hygiene of the Tissues of the Alimentary Canal, and Hygienic Measures Against Syphilis. They may be read with interest and advantage alike by layman and medical man. Anyone who has a moderate acquaintance with elementary physiology can follow the author's exposition and enjoy the admirable method in which he establishes his views by citation of most interesting observations and experiments. Even to the well-read medical man these pages will furnish much novel matter of considerable importance, accompanied by references to the special publications of recent investigators, many of whom are pupils of the "Institut Pasteur."

The first lecture contains a remarkably clear and yet brief exposition of the essential facts regarding our knowledge of the defensive mechanism of the body tissues. From the reading it may be seen that Metchnikoff does not believe that the preparatory or opsonic influence is of fundamental importance in immunity. In support of this view he cites among other things the unpublished experiments of Loehlein. If it were true that the opsonic power of the sera was of paramount importance in immunity, one would expect to see it most marked in the sera of the least sensitive animals. But in reality this is by no means the case. Thus in Loehlein's studies the serum of guinea pigs, the animals most sensitive to anthrax, had a far higher opsonic power than in pigeons, which are much more resistant to anthrax. According to the author, therefore, no parallelism exists between immunity and the opsonic action. The influence of alcoholic excess in diminishing the natural defenses of the body also receives attention. The well-known experiments of Delearde, Abbott, Laitenen, Massart and Bordet form the basis of this part of the lecture.

The importance of the alimentary canal as a portal of entry for micro-organisms, as well as the role, in this connection, of entozoa, are ably championed by Metchnikoff. He accepts the view advanced by Desonbry, Porcher and Nocard, but more especially by Adami, Ford and Lartigau, that in ordinary health a certain number of bacteria pass, especially at the height of digestion, through the intestinal wall into the systemic blood. Considerable evidence is also brought forward to show that intestinal worms by wounding the gut establish infection. The views of the author as to the role of intestinal worms in the etiology of appendicitis are too well known for further comment. The part played by lactic acid producing bacilli in preventing the development of butyric and putrefactive ferments in the intestine is also discussed. Briefly, the point made by the

writer is that infectious agents are carried to the intestine chiefly by uncooked food or unboiled water.

The final lecture on Hygienic Measures Against Syphilis is chiefly devoted to the recital of experimental attempts at vaccination. It is shown that the virus of syphilis may be attenuated by serial passages through the *Macacus rhesus* so as at last to lose its virulence through this species of monkey. One person free from syphilis inoculated with virus attenuated in the manner described developed only slight local lesions of the disease. Other experiments show that calomel in the form of salve applied so late as 18½ hours to the inoculation point prevented the development of the infection.

A. J. L.

GLORIOUS DEFEAT.

Very little explanation of the following letters is necessary. As several of the self-styled "independent" medical (?) journals have, somewhat gleefully, published the statement that Dr. Philip Mills Jones, the editor of the California State Journal of Medicine, applied for membership in the American Medical Editors' Association and was rejected, at its last meeting, he feels in duty to the society, bound to publish the actual correspondence, which shows that the application was put in reluctantly and only at the solicitation of Dr. Pilcher, president of the Association and of Dr. A. T. McCormack, secretary of the Association of State Journals, who thought it would be in the interest of harmony and for the welfare of the medical profession for the editors of the various state journals to join the Editors' Association, as requested. In passing, it may be said that the American Medical Editors' Association was for years largely made up of, and entirely controlled by, the very worst element represented in commercial medical (?) journalism, and the principal event of the yearly meetings was the annual drunk. In the last two or three years, however, a considerable number of good men have joined it and have done much to elevate the tone of the association and of its meetings. The first letter of the series was more or less of a circular letter and was, I believe, sent to all editors of state journals. As an invitation to join had been sent to the editor of the California State Journal every year for four or five years, no particular attention was paid to this one until the letter from Dr. McCormack was received. The correspondence is, I believe, sufficiently edifying without further comment.

PHILIP MILLS JONES.

(1.)

AMERICAN MEDICAL EDITOR'S ASSOCIATION,
OFFICE OF THE PRESIDENT.
CARLISLE, PA., MARCH 16, 1907.

(Dictated No. 5)

Dr. Philip Mills Jones, Editor California State Journal of Medicine, 2210 Jackson Street, San Francisco, Cal.

My Dear Doctor:

In some rather inscrutable way a sort of antagonism has arisen between the privately owned medical journals and the various association journals. As an association editor, I have been unable to find any real reason for such antagonism, or any reason why either the "independent" editors or the association editors should segregate themselves in opposition to the other party. It seems to me that all medical journalism has the same end—the development of the profession and the advancement of medical science.

I am particularly anxious that this fact should

be brought out at the ensuing meeting of the American Medical Editors' Association, which body has indicated its friendly attitude toward association journalists by the election of one of them to its presidency. Will you not join with me in the endeavor to develop a generous and charitable spirit among the medical journalists of our country, and to bring about an era of good feeling, which shall enable us all to pull together in the one common aim of assisting in the progress of our profession toward the highest point of scientific development?

Such alone is the mission of the American Medical Editors' Association, and such alone will be the results if the best men of the profession unite in the effort to materialize it.

Will you not then join the movement actively by identifying yourself with the membership of the Association, by engaging in the work of its meetings, by contributing to its program, and by giving it the benefit of your advice, experience and observations?

Earnestly trusting then that we may have the honor of your adhesion to the Association, the pleasure of your interested engagement in its activities and the honor of your presence at its meeting in Atlantic City, June 1st to 3rd inclusive, I remain, my dear Doctor,

Very cordially yours,

(Sig.) JAMES EVELYN PILCHER.

(2.)

BOWLING GREEN, KY., APRIL 3, 1907.

Dr. Philip Mills Jones, Editor California Journal of Medicine, San Francisco, Cal.

My Dear Doctor:

If you, Chase, Chandler, Jervey and Stephenson will join with us we will all go into the American Medical Editors' Association together. They are making a great deal of complaint that we are not in, and besides I am inclined to think that we would be able to accomplish something by heart to heart talks with the really good men that are in it. Please write me what you think of the matter. If you think it wise to join we will all go in together. I am writing today for application blanks and will mail you one when I hear from you. Cordially yours,

(Sig.) A. T. McCORMACK, Secretary.

(3.)

SAN FRANCISCO, CAL., APRIL 10, 1907.

Dr. A. T. McCormack, Bowling Green, Ky.

Dear Doctor:

I have your letter of the 3rd inst., referring to the proposition for some of us to join the American Medical Editors' Association. I have fought shy of this institution for five years. Two or three years ago I was invited to address this eminently distinguished association, but declined the invitation, as I was afraid that I would say things which would be unpleasant to the members. However, I have always been willing to take "program," and if you think that it will be of any advantage or will quiet the talk, for us to join, you may count me in. Certainly, if I ever attend a meeting and the opportunity presents, I will tell some of the distinguished members pretty nearly what I think of them and their publications.

Cordially yours,

(Sig.) PHILIP MILLS JONES, Secretary.

(4.)

BOWLING GREEN, KY., APRIL 22, 1907.

Dr. Philip Mills Jones, San Francisco, Cal.

Dear Doctor:

Drs. Chandler, Stephenson, Chase and Jervey have

agreed with us that it is a good idea to put in our application for membership in the American Medical Editors' Association. Will you not fill out the enclosed and mail it to Dr. J. E. Pilcher, at Carlisle, Pennsylvania? I am sure we can do these gentlemen some good by telling them what we are accomplishing with our journals. Dr. Simmons will go in with us.

Very truly yours,

(Sig.) A. T. McCORMACK.

(5.)

SAN FRANCISCO, CAL., APRIL 29, 1907.

Dr. A. T. McCormack, Bowling Green, Ky.

Dear Doctor:

Yours of the 22nd inst., has just reached me, enclosing the application for membership in the American Medical Editors' Association.

In response to your request, I will forward the application for membership to Dr. Pilcher. I must say that this dose of medicine is not particularly agreeable, but I will take it, and not make any more of a face over it than I can help.

Cordially yours,

(Sig.) PHILIP MILLS JONES, Secretary.

(6.)

SAN FRANCISCO, CAL., APRIL 29, 1907.

Dr. James E. Pilcher, Carlisle, Pa.

Dear Doctor:

At the request of some of the editors of the other State journals, I beg to hand you enclosed my application for membership in the American Medical Editors' Association, together with check in the sum of \$2.00.

Cordially yours,

(Sig.) PHILIP MILLS JONES, Secretary.

(7.)

CARLISLE, PA., MAY 4, 1907.

(Dictated No. 5.)

Dr. Philip Mills Jones, 2210 Jackson street, San Francisco, Cal.

My Dear Doctor:

I am very glad indeed to receive your application for membership in the American Medical Editors' Association, and shall have much pleasure in seeing that you are duly elected to membership. The next meeting will take place at Atlantic City on the 1st to 3rd inclusive, of June, on which occasion we trust that you will be able to be with us.

Very cordially yours,

(Sig.) JAMES EVELYN PILCHER.

(8.)

CARLISLE, PA., JUNE 11, 1907.

(Dictated No. 6.)

Dr. Philip Mills Jones, Editor California State Journal of Medicine, 2210 Jackson street, San Francisco, Cal.

My Dear Doctor:

I regret, more than I can tell you, the temporary failure of my proposal of yourself for membership in the American Medical Editors' Association. It so happened that upon the Executive Committee there were a majority of members who were not friendly to you, and, notwithstanding my own personal endeavors, I was unable to carry my proposition through. How much I am humiliated by this fact I can not tell you.

Under the new election, however, I believe that your friends are in the majority and should be very happy indeed if you would permit the applica-

tion to come up again at the next meeting and allow your friends to see that the proper action is taken. Trusting to receive an early reply and hoping for an assent to my suggestion, I remain, my dear Doctor, with best wishes.

Very faithfully yours,

(Sig.) JAMES EVELYN PILCHER.

(9.)

SAN FRANCISCO, CAL., JUNE 25, 1907.

Dr. James Evelyn Pilcher, Am. Med. Editors' Association, Carlisle, Pa.

My Dear Doctor:

On my return to San Francisco, I find your letter of June 11th, referring to the rejection of my application for membership in the American Medical Editors' Association, which application was put in at your request.

Please allow me to assure you of my personal regard and esteem for yourself, and my appreciation of the humiliating position in which the majority of your Executive Committee placed you by their peculiar action. Please allow me to assure you that, personally, I have no feeling of resentment, pique, or animosity as a result of this action. My correspondence with Dr. McCormack will show very clearly that it was not as an individual that I applied for membership in the Editors' Association, but as the representative of the State Medical organization, whose Journal I have the honor to edit. The policy of this Journal is not merely dictated by myself, but has from its very commencement been supported by the entire Publication Committee (of which committee Dr. Harry M. Sherman has been a member for four years), and has on many occasions been confirmed and supported by the Council of our State Society and by its House of Delegates. In view of these considerations, and of the further fact that our Journal has been striving to secure merely simple honesty and truth-telling, it seems to me that the majority of your Executive Committee extended a gratuitous insult to the Medical Society of the State of California, and that I, as the editor of the Society's Journal, must therefore decline to permit my application to remain over another year.

Dr. Charles E. Taylor of your association was good enough to suggest to me that if my application laid over for one year, and if during that time I exhibited symptoms of good conduct by failing to call attention to some of the peculiarities of American medical (?) journalism, I might possibly be elected next year. As I believe there was no insult intended by Dr. Taylor in this suggestion, I do not go out of my way to resent it, but simply mention it in passing, as it seems desirable for you to be in possession of all of the facts in this connection which are known to me.

I must therefore ask you to return my application for membership, and to consider the incident as definitely and finally closed. Again with every assurance of personal regard and esteem, I remain,

Cordially yours,

(Sig.) PHILIP MILLS JONES, Secretary.

(10.)

CARLISLE, PA., JULY 2, 1907.

(Dictated No. 5.)

Dr. Philip Mills Jones, 2210 Jackson Street, San Francisco, Cal.

My Dear Doctor:

I regret very much the necessity of returning the enclosed application, with my check for the fee forwarded by you. I am sure it is unnecessary for me to dwell upon this, but can not refrain from the expression of a hope that better conditions may prevail at some future time, when the American

Medical Editors' Association may include you among its honored members.

Very cordially yours,

(Sig.) JAMES EVELYN PILCHER.

(11.)

BOWLING GREEN, KY., JUNE 6, 1907.

The American Medical Editors' Association:

Gentlemen:—Upon the official invitation of your honorable president, sent us in our capacity as editors of a journal controlled and published by the medical profession of Kentucky, in an effort, as he suggested, to bring about such peace and harmony amongst American medical editors, as was compatible with differences of opinion as to methods of management, together with the editors of other State journals, we applied for membership in your organization.

Being informed that you have made an invidious distinction in accepting our applications, rejecting the honored dean of the editors of state medical journals evidently on account of his powerful advocacy of such reform in management as would indicate to the physicians of the United States that medical publications should be conducted in their interest and that of their patients rather than under the supervision of pharmaceutical advertisers, and with much personal respect for the many members of your association who stand for honorable journalism, we regret to inform you that we would consider it distinctly unfortunate for us, selected as we are by the physicians of our state, to accept membership in any organization which did not consider one who stands as squarely and fearlessly for the profession and against the commercial domination of medical journalism as Philip Mills Jones, as worthy of any honor in its gift. We, therefore, have the honor of declining to accept membership in your body, at this time,

Very respectfully,

(Sig.) A. T. McCORMACK,

Editor Kentucky Medical Journal.

(Sig.) L. H. SOUTH,

Business Editor Kentucky Medical Journal.

RESOLUTIONS PASSED BY THE LOS ANGELES COUNTY MEDICAL ASSOCIATION OCTOBER 4, 1907.

WHEREAS, The laws governing the practice of medicine in the State of California were enacted in order that only properly qualified persons be permitted to hold themselves before the public as being competent to treat sick and afflicted citizens;

AND WHEREAS, In the treatment of injury and disease, life and death are frequently involved;

THEREFORE BE IT RESOLVED, By the Los Angeles County Medical Association in regular meeting assembled, that inasmuch as the legal practice of medicine nearly always means the treatment of injured or sick citizens by ignorant, vicious or incompetent persons, that this association pledge to the California State Board of Medical Examiners its support in the work of ridding the State from quackery and charlatanism;

AND BE IT FURTHER RESOLVED, That the members of this association pledge themselves individually and collectively, to support and co-operate to the fullest possible extent with the California State Board of Medical Examiners in this important work, and that the president of this association be authorized to appoint an executive committee of three to collect funds and to take other necessary steps to properly represent the association in the enforcement of the medical laws of the State, and further be it resolved that copies of these resolutions be sent for publication to the medical press of the State of California.

RESOLUTIONS BY THE AMERICAN PHARMACEUTICAL ASSOCIATION.

To the Editor of the State Journal: At the recent annual meeting of the American Pharmaceutical Association the undersigned was directed to send you a copy of the following resolutions:

WHEREAS, The American Medical Association, the American Pharmaceutical Association and the National Association of Retail Druggists, together with many state and local organizations and journals in both professions, have been for some years endeavoring to bring about a return to the practice of medicine based on the pharmacopoeia, and

WHEREAS, The medical colleges are represented on the Committee of Revision of the U. S. Pharmacopoeia, and

WHEREAS, It is manifest to the thoughtful men both in medicine and pharmacy that a very large number of medical men might be better informed regarding the Pharmacopoeia as a book of reference and standards. Be it therefore

RESOLVED, That it is the sense of the American Pharmaceutical Association in convention assembled, that a great advance in the ethical practice of medicine and pharmacy will be made when the medical colleges make the Pharmacopoeia a prescribed textbook or book of reference and require a familiarity with it in their examinations.

RESOLVED, That we request the governing authorities of all medical colleges in the United States to put into force such a ruling in their respective institutions as will insure in future classes a well-grounded knowledge of materia medica and Pharmacognosy, as set forth in the Pharmacopoeia;

RESOLVED, That the general secretary be directed to transmit a copy of these resolutions to each medical college in the United States and to the medical and pharmaceutical press.

Yours very truly,

CHAS. CASPARI, JR., General Secretary.

EXCERPT FROM ADDRESS BY DR. SOLOMON SOLIS-COHEN, PHILADELPHIA, AT THE MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

"For the last few years pharmacists and physicians working hand in hand, have set themselves to change some of their mutual errors and mistakes of the past. It lies not in the mouth of the physician to reproach the pharmacist nor in the mouth of the pharmacist to reproach the physician. We have erred mutually, we have erred together, and we are determined to redeem ourselves together. The mere trade in patent medicines, in frauds and fakes, the deceptions of all kinds, need not concern us. There are crimes outside of the ranks, of medicine and outside of the ranks of pharmacy and we are not starting off on a general reform expedition. There are other organizations and other agencies for that purpose, but the movement to make the drugs—whether the product of the manufacturing houses or the product of the individual pharmacist—which are dispensed over the counter, upon our prescriptions, what they purport to be is one in which you and we have a common interest, and in which our patients have the greatest interest of all. I recognize and you recognize—we must recognize—that in the general progress of science and the general advance of discovery, and the general progress of the arts of manufacturing and preparation of crude pharmaceuticals there is abundant room for large manufacturing houses which devote themselves to specialties of various kinds.

"For example, how can the individual pharmacist undertake to prepare and supply the great group of animal extracts and serums, which now have such a large part in the therapeutics of today? And so even with various galenicals, alkaloids and

the like. There are many things which the retail pharmacist can not do as well as that establishment which possesses the proper facilities and which is thoroughly organized to do well on a large scale what can only be done imperfectly on a small scale. We all recognize that, and the American Medical Association has taken steps, individual physicians have taken steps, to place themselves in proper relation with the great manufacturing houses, which are a credit to American Pharmacy and to American business. We want to have the most cordial relations with them, so that these firms may be encouraged to prepare and offer to us for the benefit of our patients the best and purest and most definite pharmaceutical products. And yet, after all, there is a place, and there must be a place always for the individual pharmacist—the retail druggist, call him by whatever name you please; for the individual who practices as a scientific man the profession of pharmacy."

REMARKS BY WILLIAM C. ALPERS AT THE LAST GENERAL SESSION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

"As a matter of information I will state that the Alpers Chemical Company does business at No. 4 White street, New York, and prepares a proprietary article called Triacol which is advertised to physicians only. I personally, originated this article, but I have had for years no connection with the company except, that I am a small stockholder and director, and they use my name, I believe, for advertising purposes. The business management is entirely in the hands of the treasurer.

"In the article referred to, a copy of an advertisement in 'Ainslee's Magazine' is given, and it is this advertisement that aroused the disapproval of Dr. Jones, the editor of the California Medical Journal.

"He speaks of me as, 'a scheming proprietor, who has thrown off the mantle of decency,' and uses other disparaging language.

"I at once went down to the office of the Alpers Chemical Company, where I had not been for over a year, and investigated the matter. I found that a contract had been made with the publishing firm of Thompson & Company, and that they had put this and similar advertisements in their magazines. The contract was signed by an employee of the company, who is neither a pharmacist nor a physician, and was not aware that in doing so, he had acted contrary to the principle of the company.

"As soon as the error was discovered, steps were taken to discontinue the advertisements, and they have long since disappeared from the respective journals.

"This was done before the article in the California Medical Journal had appeared, and not in consequence of it.

"But, even if the Alpers Chemical Company had authorized these advertisements in good faith, I would not have known of it, nor could I be held responsible for it; for I have no more influence on the policy of this company than any of you have, or than that bottle on the table has."

PURE FOOD COMMISSION NOTES.

By GEORGE H. KRESS, M. D., Secretary, Los Angeles.

The organization of the Pure Food Committees throughout the State has been making splendid progress and through the co-operation of the County Medical Association Presidents, we have the great pleasure of announcing the following County Committees:

County Pure Food Committees.

Pasadena, Branch Los Angeles County Medical Association—Dr. Stanley P. Black, Dr. F. C. E. Mattison.

Los Angeles—Dr. L. M. Powers, Chairman; Dr. George H. Kress, Secretary; (Pasadena Branch) Dr. F. C. E. Mattison, Dr. Titian Coffey, Dr. Stanley P. Black; (Long Beach Branch) Dr. W. H. Jones; (Pomona Branch) and Dr. Jos. K. Swindt.

Long Beach, Branch L. A. Co. Med. Association—Dr. W. H. Jones, President (and Health Officer of Long Beach); Drs. A. C. Sellery and E. M. Freeman.

San Francisco—Dr. J. Henry Barbat, Dr. A. B. Spalding, Dr. Paul Castlehun and Dr. J. T. Watkins. Santa Clara—Dr. J. J. Miller, Chairman, San Jose; Dr. Wm. Simpson, San Jose; Dr. Louis Belkman, Garden City Sanitarium; Dr. Ray L. Wilber, Stanford University; Dr. Clara A. Sylvia, Gilroy; Dr. A. E. Osborne, President.

Santa Barbara—Drs. Conrad, Sunburg, Rexwald Brown, Todd and Barry.

Hanford—Dr. Ralph Motheral, Drs. L. E. Felton and R. W. Musgrave.

Orange—Drs. Francis L. Bruner, President; S. D. Ball, Secretary; J. L. Beebe.

San Luis Obispo—Dr. E. L. Paulding.

Marin—Drs. J. Kuser, H. O. Howitt.

San Mateo—Drs. H. G. Plymire, A. F. Maine and Geo. C. Baker.

Sonora—Drs. Robt. Inneo Browley and Elisha Toleman Gould.

Fresno—Drs. A. H. Aiken, W. T. Manpin and G. A. Hare.

Monterey—Drs. E. K. Abbott, J. Parker and T. C. Edwards.

San Diego—Dr. J. A. Parks, Chairman; Drs. Edw. Grow, H. A. Thompson and F. H. Mead.

Solano—Geo. W. Morton, Esq., Chairman; R. B. Dempsey, Esq., Secretary; Dr. W. S. Makemson, Rio Vista; Dr. S. G. Bransford, Suisun; Dr. C. E. Turner, Vallejo; Dr. P. V. Fry, Rio Vista; Dr. F. T. Bond, Vallejo; Dr. Jas. H. Hogan, Vallejo; Dr. Jas. B. Cawley, President, Vallejo.

Riverside—Drs. W. W. Roblee, Chairman; J. L. Baird and W. B. Sawyer.

Tehama—Drs. A. P. Tartar, H. H. Zimmerman and J. M. West.

This is a most excellent beginning, and it is gratifying to know that several of these committees have already written to the Central Committee concerning pure milk and other pure food measures, which they have already taken under investigation.

No less encouraging than the above, was the response from health officers throughout the state, who were asked to co-operate in the work of the Commission, and to allow the use of their names as associate members of the Pure Food Commission. Their cordial replies and assurances of good will may be construed as most hopeful signs for the cause of pure food and preventive medicine.

On September 28th, in response to the agitation inaugurated by Dr. Stanley P. Black, Health Officer of Pasadena, and a member of the Executive Committee of the Pure Food Commission, about twenty health officers of the region south of the Tehachapi, met in Los Angeles and formed the Southern California Health Officers' Association. Dr. C. C. Valle of San Diego was elected President; Dr. Stanley P. Black of Pasadena, Vice-President, and Dr. W. W. Roblee of Riverside, Secretary-Treasurer. Dr. A. E. Rishel, Chief Inspector of the Bureau of Animal Industry, read a paper on "Veterinary Inspection and Tuberculin Testing of Dairy Cattle." Dr. George W. Hood, Chief Milk Inspector of Los Angeles, spoke upon "Cleanliness of Milk; How It Can Be Secured Through Inspection." Prof. E. H. Miller, City Chemist, told of "Milk Standards; Simple Chemical Tests for Standards and Adulteration." Dr. L. M. Powers, City Health Officer, read an important paper upon "Diseases Conveyed Through Milk." Then followed a paper upon "Co-operation

of State and County Medical Societies Towards Securing Pure Milk," by George H. Kress, Secretary of the Pure Food Committee of the California State Medical Society. Dr. Stanley P. Black concluded the programme with a paper upon "Means Available Towards Securing a Pure Milk Supply."

The Association will meet again in December at Riverside on the afternoon before the semi-annual meeting of the Southern California Medical Society. In this Association the Pure Food Commission expects to find a strong ally in Southern California health matters.

While considerable effort has been centralized on the organization work of the commission, the members of the Central Committee located near Los Angeles have also given much thought to local problems.

Thus, about four weeks ago, several evenings were spent with the county health officer and the first draft of a new county health ordinance, modeled upon the State law, was drawn up. In this work, the Commission had the co-operation of Dr. K. N. Foster, Secretary of the State Board of Health. Dr. Foster, while in Los Angeles, also aided greatly in supporting Dr. Le Moyne Wills of the State Board of Health and the committee of physicians from the Los Angeles County Medical Association, who appeared before the City Council in favor of a "cleaning up" ordinance. As a result of the united efforts of these gentlemen, Los Angeles is to have a sanitary housecleaning, and we hope a non-appearance of the plague.

Last, but not least, we are able to chronicle the successful outcome of our battle with the Los Angeles Gas and Electric Company, which corporation and the railroads, the Commission has been fighting for the last six months in an effort to do away with the smoke nuisance of Los Angeles. This nuisance has become a grievous evil in the South, and the successful outcome of the battle with the gas and railroad companies is a decidedly pleasant condition of affairs, for these companies have dominated the City Council for years.

In spite of the many delays, then, the final vote was taken on the ordinance, every single councilman voting for the ordinance. Why? Because the agitation had centered the attention of the public on the ordinance, and as the public were in favor of the ordinance, did not dare to vote against it.

The Commission hopes that all County Medical Associations which have not yet done so, will give the appointment of their Pure Food Committees their early consideration.

Only by united co-operation can we attain to that influence in public health affairs which it is both the duty and honor of the medical profession to bear.

The representation of your respective County Association is the first step. If your President has not yet appointed the committee to represent your county, call his attention to the matter. More anon.

The following articles have been approved by the Council on Pharmacy and Chemistry:

Emulsion Cloftlin (Cloftlin Chem. Co.), Regulon (Reinschild Chem. Co.), Chologestin (F. H. Strong Co.), Diazyme Essence (Fairchild Bros. & Foster), Diazyme Glycerole (Fairchild Bros. & Foster), Holadin (Fairchild Bros. & Foster).

The University of California Hospital is about to open a Training School for nurses and will receive applications for admission. Address A. A. D'Ancona, M. D., Superintendent, University of California Hospital, Parnassus avenue, San Francisco.

California State Journal of Medicine.

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PHILIP MILLS JONES, M. D., Secretary and Editor

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. V

DEC., 1907.

No. 12

EDITORIAL NOTES.

Plague, or pest, has existed in California since March, 1900, and possibly for a somewhat longer period. In 1894 it appeared epidemically in Hong Kong, probably coming from the interior of China, and four years later an epidemic broke out in Bombay. It could not have reached San Francisco earlier than 1894 or 1895 and probably did not come until 1898 or 1899. The first recognized and verified case was found March 6th, 1900. We all know the history of events following its discovery; it is the same history of denial, abuse, antagonism, which has been written wherever an epidemic of plague has occurred. But the fight, in San Francisco, while long and bitter, was slowly but surely won, and no case was noted in the city from February, 1904, till May, 1907. During this period, however, cases had been noted in Contra Costa County and in Alameda County, and the circumstances under which they occurred seemed clearly to point to the ground squirrels as the agents carrying the disease. It has been impossible, however, up to the present time, to obtain a squirrel or the body of one sufficiently fresh to determine its condition. All the evidence bears us out, however, in assuming that the infected rats—or fleas—of San Francisco, carried the infection to the ground squirrels of Contra Costa and Alameda Counties, in the early years of the century, and that the disease has remained in

those sections, slowly spreading, up to the present time. Doubtless the present epidemic in San Francisco had its origin in infected rats or fleas coming from one of these counties. So far as San Francisco is concerned, the presence of plague need excite no uneasiness; but with regard to the bay counties, however, the matter is quite different. The gravest danger lies in our ignorance, for we do not know where the infection is, how far it has traveled nor in what directions. In dispute of these assertions it is argued that very few cases have been noted in the counties mentioned and that if the disease really did exist and had existed in this territory, there would have been more cases. But that argument is without weight for we could not expect to find many cases of the disease in sections where the people live an out-of-doors life, are not crowded together and have plenty of air and sunshine. Moreover, they ordinarily do not come in close contact with squirrels nor invade the territory of the squirrel; and when the squirrel gets sick, he goes into his hole to die.

Clearly, the gravity of the situation is not to be underestimated nor brushed lightly aside with a mere negation or a boastful clamor about our "wonderful climate;" plague pays scant attention to climate, for the rat—and consequently his favorite disease, plague—thrives equally well in all climates. Nor is this a matter that concerns only California; the whole United States is interested, for the rat is a great traveler and where he goes he takes his fleas and his plague. We have got to find out just how far the infection has gone and then begin to get rid of it, and there is just one way of doing that—a careful inspection of all dead by someone who knows plague when he sees it. No matter how competent the man, no matter how excellent a physician, if he has not had experience with plague he is worthless for this work. It is universal experience that at least forty per cent of cases are not diagnosed as plague by the attending physician, even in times of marked epidemic, and the probabilities are that in our own experience in this state, the percentage of unrecognized cases would come nearer a hundred. One physician who has had four cases in his practice, and was on the lookout for the disease all the time, has reported that he did not make the diagnosis, unaided, in a single one of these cases; and this was not in San Francisco, either. The sudden death of a person with an ambulatory case of plague is a matter frequently noted in all epidemics of this disease, and the signs which would indicate the infection may be few and trifling; such as would be easily overlooked by one untrained. The counties about the bay should be gone over as with a fine-tooth comb and the inspection of all dead bodies before burial permits have been issued, should be compulsory. Nor should this work be confined to the bay counties alone. The contiguous country should also be placed under suspicion until we know exactly whether it is clean or not.

Making compulsory the inspection of all dead by an observer trained in plague work, is the first step in the warfare, and this we will have to do voluntarily or we will be compelled to do it by the declaration of quarantine against California. You may think that is an extravagant suggestion, but it is closer to us now than most of us know and is as sure to come as to-morrow's sun unless we get very busy, and that soon, and find out exactly where the disease is, and then fight it. The health officers of all the surrounding counties should come to San Francisco and study plague under the supervision of the Marine Hospital men, who will gladly aid them, and thus know something about it and be able to know it when they see it. Until they are trained, properly qualified medical officers should be employed, and enough of them, to make the investigation of all dead persons. All physicians should be aroused to the presence of the disease and warned to be on the watch for it, and to co-operate in the matter of official inspection. Furthermore, the public should be informed of the exact situation and their co-operation secured; let the voting citizen know that plague is here in our state and that the quicker he loosens the purse-strings and starts to fight, the cheaper will be the fight in the long run; it has been said, if memory serves, by Kitasoto, that every case of plague costs the community \$7,500.00, and that is certainly not an overestimate, if we consider what it will mean in the course of time. If the countries and towns cannot stand the expense of the necessary work, the state should not hesitate to step in and do it. Dollars spent now will mean thousands saved in the long run. Bring all the pressure you can upon your newspapers and force them into aiding in the work of publicity. Tell the people what we know about plague—that it is a disease of rats (and probably squirrels), conveyed to man by means of fleas, in the great majority of cases, though easily transmitted directly. When the rats are destroyed plague is destroyed, and rats cannot live or thrive if their food supply is taken away. If the people will not help, by cleaning up each his own premises, keeping refuse and food where rats can not get it, killing and catching rats, and generally aiding in the work, we can do mighty little. The public must be enlightened and made to co-operate.

The newspapers, instead of helping, as they should, show a disposition to belittle the whole thing and to make the people believe that either there is no plague here, or that it amounts to next to nothing. When the disease appeared in San Francisco seven years ago, the press, with one accord, abused everybody connected with fighting the infection; the governor was equally obnoxious and aided the press in its attacks upon the medical profession and the officers of the Marine Hospital Service. This time they have not been quite so bad, but they have done little or nothing to help, and the Chronicle, from its "tower of golden silence," has ridiculed the whole thing. The

papers are like the ostrich who buries its head in the sand and thinks it is hidden; they forget that, if they will not print the truth, other papers in other cities will print things that are far from the truth. Already, in Chicago, the papers have printed wonderful and fearful stories about plague, thousands of deaths, and people fleeing from rats which pursue them in the streets. In Mexico a paper printed the statement that there were nine hundred cases of plague in San Francisco; in other places equally farcical stories have been printed. This policy of silence or of negation is dangerous in the extreme and we should do everything in our power to show the papers the foolishness of their attitude; they think it will excite the people and "hurt business" if they print the facts. But if the people are not informed of the facts and the danger—for there is real danger—they will do nothing for they will not know what to do. Teach the people that *plague is here in our state*; that it is not a question of preventing it from getting a foothold, for a disease that has been with us for seven years can be said to have obtained a pretty fair foothold; that it follows the lines of rodent travel and migration and that destruction of rodents means a stoppage of plague, and nothing else will mean that. Let them get excited if they must, but let them get busy and help. There is no *immediate* danger of a serious lighting up of the epidemic, but there is a remote danger of that unfortunate occurrence if we do not find all the foci, find where it is, and clean it out. And the longer it slumbers along, the greater is the ultimate danger of a serious conflagration. Ignorance is the greatest of dangers; enlightenment means ultimate health and cleanliness.

The next meeting of our State Society will be held at Coronado, April 21st, 22d and 23d, 1908. The value and importance of our organization are becoming more and more clearly defined with each passing year, and it is certainly to be hoped that the attendance this year will be larger than ever before. In many sections of the state our men are awake to the duty they owe the community in the matter of the protection of the public, and they are taking active part in the "science or art of government." It is through the State Society that these energies are centralized and consequently the work and the importance of the Society are steadily growing; and also its value to the people of the state. Every reputable physician of every county in the state should be a member of his county society (and consequently of the State Society) and as many as can possibly leave home for a few days should attend the meetings of the State organization. The getting together, becoming acquainted with each other, learning each other's good qualities and rubbing off some of the corners are matters quite as important as the discussion of scientific subjects. As a natural consequence of the nature of our work, the tendency is for medical men to become narrow and self-centered and it is general meetings such as

those of the State Society that do much to correct these evils. Every county society should be represented by an active delegation, and particularly by the secretary of the society, for on him falls most of the work; where there is a good, active secretary, there will be found a good live county society, and as the secretary is the working member of the society, he certainly should attend the meeting of the State body and participate in its work. Next month we hope to publish an outline of the program which, the JOURNAL is informed, will be unusually good and will embody some very carefully thought-out changes from the regular order of things. Do not fail to attend.

Now and then there is something that comes along and encourages those who are working for better organization of the medical profession and more active enlightenment of the public. In this issue there are two items, to be found elsewhere, which are very encouraging. One is the information furnished by Dr. Hoag as to the supervision of school children in Pasadena. In the education of our children we, as a people, offer another striking illustration of our almost total disregard for life and health, with a full appreciation of wealth and what goes to the getting of it. Thus we recognize by the existence and maintenance of our public school system, the value and the benefit to the individual of an education; but we do practically nothing to supervise the health of the growing child when he is being educated. We offer no protection to him, in either health, life or the aid in his own individual efforts which may be suggested by competent medical supervision. Here and there about the country one may note a school in which there is an occasional or periodic examination of school children, but the continued supervision of them during their entire stay in the school, as indicated by Dr. Hoag, is almost unique. And it is right that this work, as he justly points out, of tremendous value to the child, should be paid for just as much as the work of the one who teaches the child common knowledge should be paid for. It is true that our profession is altruistic, but that we should be called upon to do work of this very necessary and valuable nature for nothing, is carrying altruism to the point of absurd imposition. Communities of men will devote their energies and their resources to the conservation of material prosperity and not murmur; but when they are requested to devote some portion of their resources to the conservation of their own health and sanitary welfare, they do more than murmur—they howl. Why?

The other item of encouraging information is the report of the year's work which comes from Santa Barbara County. Here is one of the smaller counties of the State, having a county society which is not and can not be a large one, yet which has done much during the past year to bring the members of the

profession in touch with each other, and the profession of the county in touch with the citizens. Matters of hygiene, public health, sanitation, and the like, should be subjects for common discussion between physicians and laymen of all of our communities, through the medium of the county medical society. This has been written of so frequently in the JOURNAL that perhaps the iteration may become tiresome; yet it will continue to be referred to. Santa Barbara County is to be highly congratulated upon its county society, and the JOURNAL urges the society to continue, in the coming year, the excellent work it has begun in the year just closing. Meet frequently with the laymen of your community and teach them something of the work our profession is trying to do—for their own good and their own benefit, so that they may aid and not hinder us in the work.

In a recent issue of the JOURNAL we stated that the *Western Druggist* had been guilty of printing an untruth when it said that Dr. McCormack was not correct when he accused the N. A. R. D. of pernicious activity in the various legislatures against pure food and drug legislation, and we proved it. The *Western Druggist*, in reply, can find nothing to say except to make a personal attack upon Dr. Philip Mills Jones and accuse him of all sorts of things in connection with his active support, a few years ago, of the plan to establish a bureau for the certification of standards of food and drugs—a plan, by the way, which could not have been so awfully bad, for the Council on Pharmacy and Chemistry is now doing all the work, or most of it, that was contemplated by the old bureau plan, and the United States is doing all the rest under the pure food law. This is said merely in passing, however; the really amusing thing is the way so many of those who fatten at the nostrum trough seem to think that personal abuse is argument, and that if they can only hit a few heads with the seductive brick-bat, they will stop the onward march to pharmaceutical cleanliness and decency. Not so, gentlemen; try again. By the way, if that allusion to "the office shotgun" was in the nature of a threat, the JOURNAL takes pleasure in advising the *Western Druggist* that Dr. Philip Mills Jones visits Chicago every year—and he is not at all superstitious.

Occasionally, as one contemplates the medical profession in its sociologic aspects, he may see something cheerful and encouraging him to believe that the formerly all-pervading envy, hatred and malice is somewhat giving place to respect, friendship and co-operation. Indeed, when one thinks that up to a very few years ago our profession was to all intents and purposes absolutely without organization, and that the various units were either busily occupied in hammering each other, or dividing up into squads for the purpose of hammering other squads, any harmonious action, any

expression of cordiality, comes as a distinct sensation and indication of progress. One of the most delightful illustrations of this progressive feeling of better things was recently offered by the medical profession of the County of Los Angeles in giving, on November 16th, a banquet to the health officer of the county, Dr. L. M. Powers. Some two hundred and fifty physicians gathered together to do honor to themselves and to Dr. Powers, and the cordiality and sincerity of the event could not have failed to affect and instruct every one present. Think of it! Two hundred and fifty doctors actually coming together for the sole purpose of testifying to their support of *one of their own profession!* And surely it must have been an object lesson to the mayor and the members of the council who were present, to see with their own eyes the attitude which the medical profession took toward the health officer. And it was an assemblage without school, without sect and without prejudice; all schools and all cliques were there—and "clique" is not used in a disparaging sense. And all had something to say in praise, support or commendation of Dr. Powers. It would be a mighty good thing if the members of our profession would get together more often for similar peaceful demonstrations.

THE PROPHYLAXIS AND ERADICATION OF PLAGUE.

By RUPERT BLUE, M. D., Passed Assistant Surgeon, U. S. Public Health and Marine Hospital Service.

The consideration of the causes of plague naturally leads one to ask what measures should be adopted to stamp out the disease. Knowing the cause, the mode of transmission, and many of the contributory factors of its spread, the eradication of plague can be accomplished by the practical application of these basic principles. While it is improper to mention things before persons, in this case it is the natural sequence, because rat plague is the forerunner of human plague, and it is only by a careful study of the former that we may understand how to eradicate the latter. Let us first, then, consider the plague as it exists in the rodentia.

The epizootic disease of rats known as plague is communicable to man through the agency of the flea, by infected food and air. The consideration of the prophylaxis of this disease therefore naturally falls under these heads.

Since the most remote times the connection between rats and plague has been fully recognized, but it has remained for the modern scientist to establish this beyond question. The researches of the British Commission in India have made a strong case against the rat and have proven beyond cavil the transmission of the disease by the flea. Simpson's work in Hong Kong goes a long way to prove that the dried excretions of plague infected rats entering the human system through the intestinal or respiratory tracts is followed by septicemic or pneumonic plague. It is therefore apparent that whatever measures of prophylaxis or eradication we are to take must be directed against rodentia, particularly rats and squirrels and their parasites.

First we may consider the method of the spread of the disease in rats. Here we have an animal frequenting the habitations of man and subsisting on all manner of refuse and garbage, making frequent visits to the sewers and returning therefrom gorged with all manner of filth and pollution which may be infected with any of the pathogenic bacteria. Rats become infected with plague by devouring the carcasses of their kindred who may have died of the disease, and through the agency of the flea. The well rat is quite able to defend himself from these pests, but once sick they attack him in great swarms, suck his blood, which contains the *B. pestis*, and on his death leave his cold body for the first animal from which they can secure sustentation.

In the rat we have all the types of the disease which are observed in man, and, in addition, a chronic form in which the bacterium is encapsulated in the glands of the viscera. Here we have ambulatory foci which will assist in spreading the disease.

The prophylaxis of rat plague contemplates three things: First, the destruction of rats; second, the prevention of their entrance into the habitations of man; and third, the adoption of such measures as will prevent the shipment of infected rats into non-infected territory.

To destroy the rat, his home must be made untenable and his food supply forever cut off. All rat-holes and rat-runs in infected blocks should be flushed with an active antiseptic solution, poisons such as arsenic or phosphorus paste placed therein, and the holes closed with cement or broken glass and bricks. The entire infected region should be poisoned at frequent intervals with the chemical poisons mentioned above or the biological poison known as Danysz' virus. This consists of a culture of the *B. typhimurium*, and if of high virulence is most efficacious. In 1889, Laeffler, while investigating a sporadic disease among mice, discovered the *B. typhimurium*. Danysz, recognizing the possibilities of such a bacterium, exalted its virulence until it was lethal to rats. It produces in them a contagious disease, characterized by a fatal entero-colitis. The method of distribution of this organism is to mix alkaline bouillon cultures which have been incubated from four to six days at room temperature, with yellow corn meal or any of the farinaceous foods. The cultures are liable to rapid deterioration and should therefore be spread at frequent intervals. A reliable check on its efficiency is to trap rats in the district where the poison has been spread and to quarantine them in the laboratory. On their death they are necropsied to determine if they have died of mouse typhoid. The rats should be trapped with wire cage or snap traps and an active campaign of extermination carried on against this pest, which annually destroys millions of dollars of merchandise and is a constant menace to the health of the community.

To prevent the entrance of rats into the habitations of man, all places of human occupation should be made rat-proof. This is accomplished by the

concreting of all basements, the screening of all openings near the ground level, the tight fitting of the entrances and exits of the house plumbing and the closure of all roof openings through which the roof-rat might find entrance. The fact is often overlooked that the sewers are the main traveled road of the rat, and that it is through defects in them that they enter premises. The sewers should therefore be made rat-proof. This is accomplished by the substitution of vitrified clay or concrete sewer for the ancient brick and mortar affair which is riddled with openings through which the rat can pass. The catch-basins should be protected by gratings and the traps made sufficiently deep to defy even the most expert divers of the rat population.

No city can hope to be rat-free unless the laws relative to the collection and disposal of garbage are most rigidly enforced. Each house should have a metal garbage can covered with a tight-fitting lid. The city should collect the garbage and destroy it by incineration and no rat food of any kind should be allowed to remain exposed. Mills, bakeries, granaries and warehouses, in addition to rat-proofing, should be required to protect their stores from rats. Stables are particularly dangerous. They should be concreted, provided with a tight manure bin and metal-lined container for feed. They should be connected with the sewer and flushed frequently to wash out grain fallen from the feed bins. The manure should be removed frequently.

The prevention of the shipment of infected rats into non-infected territory is of the utmost importance. In plague times the authorities should make every effort to prevent rats making their way on board vessels. This is necessary to prevent the spread of the disease to other ports and to obviate the placing of quarantines by other cities. To accomplish this, freight should be stored in rat-proof and rat-free warehouses. Piers may be protected by a drawbridge which is raised by night, and by surrounding the freight with high metal fences and the placing of rat-guards on the joists and rafters.

All of these measures are not applicable to the smaller communities and the country districts, but it is the duty of every health officer to carry out the principles laid down above as far as is practicable in his own environment. Too much stress cannot be laid upon the ground squirrel as a possible factor in the dissemination of plague. Laboratory experiments have proven that they are susceptible to the disease, and in my own experience I have seen at least one case the history of which indicated that it was contracted in this way.

Passing from the consideration of rat-plague to human plague, the prophylactic measures to be adopted to protect man are, the early discovery and isolation of all sick of plague, the daily examination of all contacts for a period of seven days and their protection by immunizing doses of Yersin's serum or Haffkine's prophylactic. The earliest as well as the surest way to discover the existence of the disease among the living is the careful examination of all dead by physicians skilled in the diagnosis of plague. In plague times every municipality liable

to the disease should pass ordinances forbidding the removal of dead bodies which have not been viewed by a trained medical inspector and declared not infected with plague. All persons dying of plague should be cremated or buried in quicklime in metal coffins. It should be a routine practice to require a necropsy on the bodies of all persons dying after a short illness of pneumonia, typhoid fever, or from undetermined causes. Cases presenting palpable glands or petechial eruptions should be viewed with suspicion and the diagnosis determined by post mortem examination.

Undertakers should be warned that the act of embalming bodies in which there is a suspicion of plague is a danger alike to the persons performing the operation and the public at large. The solutions used in this process render the body sterile and make it impossible to recover the organism and arrive at a correct diagnosis.

Health officers should make a careful study of the vital statistics of their counties and should make a careful investigation of all unusual diagnoses, cases of rapidly fatal pneumonia, typhoid fever, uremia and the like. An increased mortality should put them on their guard. Wherever laboratory facilities are lacking specimens should be taken of the spleen, lung, kidney and lymphatic glands and sent to the nearest bacteriological laboratory for examination and confirmation. This is equally applicable to rats.

Whenever it is thought that plague may exist in a community, a carefully organized campaign should be immediately instituted. The territory should be divided into districts and a trained medical man placed in charge of each. A sanitary survey should at once be made and all premises carefully inspected. A record should be made of the conditions found at this time and the opportunity taken to instruct the general public of the methods of the spread of plague and the necessity for destroying rats and rat-food.

Whenever a case of human or rat plague is discovered, the building should be fumigated with sulphur in the proportion of five pounds to the one thousand cubic feet of initial air space, after careful sealing of all openings through which the gas could escape. The carpets should then be removed and beaten, the floors swept and the sweepings burned, and the floors of the house washed down with an active antiseptic solution to kill fleas and flea-eggs. Following this, the yard and outbuildings should be similarly treated and a careful examination made of the space beneath the floors and in the hollow walls for the bodies of dead rats. The same measures should be applied to contiguous houses and the entire block and the blocks surrounding it freely poisoned.

Bedding and clothing contaminated with the excretions of plague cases should be destroyed by burning. Other articles liable to convey the infection should be immersed in bichloride, 1 to 500, or carbolic acid, 1 to 40.

Subsequent cases occurring among non-contacts would indicate an error in technic. Houses or

buildings in which plague continues to manifest itself after the application of the above measures should be vacated and destroyed to prevent the spread of the disease. Badly infected areas may be depopulated and the people removed therefrom, placed in detention camps for observation until the period of incubation is passed.

It should not be forgotten that plague is frequently a ship-borne disease and follows the lines of travel. This requires an outgoing quarantine and the fumigation of all vessels touching at infected ports prior to departure.

Plague is a disease slow to gain epidemic proportions. Planted on a virgin soil, its subterranean mode of development requires time for it to reach its greatest intensity. Nine years passed before the great London epidemic reached its height, but once the disease strikes root, it is difficult to eradicate and its climax is a horror.

THE EVOLUTION OF THE DISEASE-ENTITY CALLED MANIO-DEPRESSIVE INSANITY, AND ITS MAIN FEATURES.*

By A. W. HOISHOLT, M. D., Stockton.

(Concluded from page 292)

When in a case several attacks of maniacal excitement and depression have taken place, it is not difficult to diagnose manio-depressive insanity, although changes in the mental condition from elatedness to despondency or stupor are met with in general paralysis and katatonia; but when the history does not give information of previous characteristic changes in affects, and one is dealing with the manifestations of the first attack, it is often very difficult to come to a conclusion. If the patient in question is beyond the middle age, Kraepelin lays stress upon a differentiation between manio-depressive insanity and true melancholia or melancholia of senescence, which he considers a disease quite distinct as to its inner nature from the former. In this, many psychiatrists disagree with him. Thalbitzer places melancholia of senescence—depressive forms of devolutional psychosis, as (7) Dr. Farrar terms them, within the boundary of manio-depressive insanity, and ascribes the features which are especially characteristic of it to the influence of age. The only cases excluded by Thalbitzer from melancholia of senescence are those of depressive Wahnsinn, which he thinks belong in a class by themselves. The chief clinical difference between true melancholia and manio-depressive insanity is an absence of psychomotor inhibition in the former, but as Thalbitzer has shown, this is also absent in the mixed form of manio-depressive insanity, called by Kraepelin and Weygandt "the agitated depression," which is characterized by depression of the affects and psychomotor excitation. How can one then differentiate this from melancholia, especially as this has been admitted by Kraepelin to be likewise subject to relapses? The mildest forms of manio-depressive insanity, which as Kraepelin says, pass imperceptibly into certain morbid personal

peculiarities, and which perhaps never fall into the hands of the alienist, are frequently considered cases of hysteria, neurasthenia or hypochondriasis. In the conditions of hysterical excitation, which these attacks sometimes resemble, we miss the flight of ideas, the elated character of the emotions and the pronounced divertibility. The excitement is more theatrical in character, shows more childishly affected manner of talk and action. There is an impulse to act, but no general craving for activity and the excitement is of shorter duration.

Many of the cases diagnosed by some writers as acute or periodical paranoia are simply maniacal or depressive states—manifestations of the manio-depressive insanity, the diagnosis of which may usually be established by proving the presence of elatedness, loquaciousness, craving for activity, mild flight of ideas, increased divertibility, or on the other hand, thought-inhibition, hopelessness, irresoluteness, etc., or a mixture of these symptoms, proving that the apparent paranoic delusions are of an entirely different nature.

Cases of manio-depressive insanity, especially the cases of maniacal stupor, may sometimes resemble katatonia (dementia præcox), but such patients are not negativistic; they take more notice of their surroundings, are more approachable, not so peculiarly stiff—do not show the reserved demeanor when asked to shake hands. When they speak they give evidence of impoverishment of thought, but do not show the stereotypy or the non-sensical incoherency of the katatonic, nor are the ideas of unpardonable sin mixed with persecutory ideas as in katatonia or dementia præcox. Kraepelin mentions that maniacal as well as depressed cases are occasionally thought to be feeble-minded. He mentions a patient who for months would laugh to herself in a silly manner and at the most now and then give her neighbor a dig. Kraepelin had considered her feeble-minded, but she recovered and after her recovery proved to be unusually bright, and well educated.

In conclusion it may be said that manio-depressive insanity is essentially a psychosis of the affects, its fundamental characteristic being that its affect-symptoms are only quantitatively differentiated from the physiological state of the feelings and emotions. As (8) Thalbitzer says "the psychosis discloses its origin as the pathological exaggeration of a physiological affect by showing a certain proportionateness between the depth of the depression and the grotesqueness of the despondent fallacious ideas. Whenever the depression becomes diminished the despondent ideas will likewise assume less monstrous dimensions."

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Discussion.

Dr. P. K. Brown, San Francisco: It is surprising the number of cases that come into the hands of the general practitioner, cases of insanity in individuals who have never before been insane, and from families where there is no reason to suspect this trouble. In this condition one has to deal with people whose extraordinary ignorance of the usual conditions is usually equaled by that of the physician. Early in my practice it became evident that the most valuable help I could have in dealing with the constant cases was a knowledge of the classification of these cases and an idea of the prognosis, because of the influence it always has in enabling one to advise what had best be done. I arranged with great interest a number of cases in this manio-depressive class of insanity. I get cases where I see that their symptoms months before would have been diagnosed as melancholia or neurasthenia. I recall a case of a personal friend who had the habit of wandering about the streets at night because of sleeplessness. The condition of muscular instability and first manifestations of acute mania came during one of these night wanderings when he saw a man talking loudly to a woman, and the result of his wild interference landed him in an institution. I was impressed with the fact that there was an unusual religious period of two or three months, as far back as six months. That there was a period of great mental activity, when he did an enormous amount of writing on subjects in which he was not ordinarily interested. I have had cases in the last two weeks, cases of manio-depressive insanity. After watching the patient one can sit down with the family and trace out incidents that should have been recognized by the family physician. I wish to emphasize what Dr. Hoisholt has said about the preliminary period of depression and the period in which there is very often marked evidence of increased religious feeling. This is the characteristic in a number of cases I have seen, and it is so distinct that mania occurs almost like the chill in malaria after a period of fever.

Dr. Gardner, San Francisco: I have been very much interested in this paper. If Kraepelin himself in the diagnosis of this insanity cannot place about 50% per cent of his cases, then I think the general practitioner may be excused for some of the mistakes mentioned. There is an excuse for the mistakes to a general extent, in that the general practitioner does not frequently come in contact with cases of this kind, and then only for a short period. The form of insanity the Doctor has called attention to is a new classification and a good one, in that many times we come in contact with cases where the maniacal condition makes us doubt whether to classify it as melancholia.

Dr. Hoisholt, Stockton: In studying these diseases one is dealing with an organ that does not secrete or excrete any substance that will enable one to learn something more definite with regard to its healthfulness. Kraepelin has tried to ferret out the nature of the disease that he studied and the only way to do that is to learn in the history of the case

and the actions of the patient the way in which it is violating laws. I wish to lay stress upon this in connection with the study of insanity, that one must not stop with that but go into the study of the manifestations in the way that they deviate from the normal. The man in the asylum does not see these cases in the early stages. The only way to make progress in the knowledge of these cases is to pursue careful study of them before they arrive in the asylum. Opportunity of that kind can be afforded if the colleges had a clinic where the patients could come and the early stage could be outlined before leaving that institution. With regard to the frequency of the disease, I think that perhaps more than 15% will be reported later on. There is only one disease which is more frequent than that, and that is alcoholism.

SYPHILIS—EXTRA-GENITAL CHANCRES.*

By RALPH WILLIAMS, M. D., Los Angeles.

The subject of the extra genital mode of infection is of great interest to us and to society in general.

First: Because it is possible for any one thus to acquire a dangerous and mutilating disease in so many different ways, and to have their whole life made miserable, for no matter in what manner contracted, the disease by the laity is regarded as directly venereal or as hereditary, and carries with it a certain disgrace.

Second: As a value to society, for the reason that if there had been more cases of extra-genital infection, society, which at present even taboos the name, would have looked upon the disease in its proper light, not as a punishment of vice, and of necessity as an indication of loose morality; but as a constitutional disease with the possibility of it being acquired by both a mediate and immediate manner of infection; possessing to its victims a danger, reaching into the lapse of years, and capable of being transmitted to their progeny. A knowledge of syphilis (old as man—protean as the devil) possessed by society would teach it to be more careful, more cleanly in the use of various articles, and realizing the dangers of this disease and having been taught the many avenues of infection, the people would have better understood and more generally aided in the subjugation of it and other diseases through the propagation of the many great sanitary reforms of recent years, or those which are to follow as prophylactic medical science mounts ever to its ideal. Society in general can hardly be blamed for its ignorance when we consider the fact that so many extra-genital chancres are never even suspected by the general medical man until the roseola or the mucous patch spurs his memory to the fact that even old friends may sometimes change their residence.

Case 1, September, 1900.—A miner, 40 years old, came to Los Angeles to have some dental work done. It became necessary to pull a left lower wisdom tooth. The laceration filled and apparently healed, but about 16 days later became sore and slightly swollen. He was treated by the dentist for several days. About twenty-three days after the ex-

*Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

traction the patient was sent to me by a third party. At this time there was an irregular ulceration of the gum where the tooth had been, tender to the touch, and extending to buccal edge of the gum. The ulcer was depressed in the center, practically no discharge, the base was puffy, edges hard and marked by a reddish brown line. There was both submaxillary and anterior auricular glandular enlargement. The specific nature of the ulcer was suspected, the method of infection being divided between the dentist and a "trip down the row," to which the patient confessed. The ulcer did not heal under various applications, but did get smaller and harder and was still present when the roseola appeared nine weeks after the extraction of the tooth. Then, under constitutional treatment, there was a rapid healing of the chancre, which, previous to the appearance of the cutaneous eruption, had become similar to an ulcerated mucous patch.

Case 2, January, 1901.—Also a miner, who came to the city for the treatment of an ulcerated tooth, the major portion of which had been removed some six months previous, and which had for a week been painful and swollen. The remaining piece was removed, but the gum did not heal and he came to the medical college two weeks later. He admitted having smoked at times, for a month before coming to town, the same pipe as was used by his partner. At this time, viz., two weeks after extraction of root and three weeks after noticing a sore gum, there was a linear ulceration along the edge of the gum at the side of the upper, right, second molar; very little tenderness, shallow, no infiltration of base and a yellowish line along the edges. The first patient being still under treatment, this one was at first suspected of being similar, although glandular enlargement was very slight and the ulcer healed under the use of silver in two weeks. One month later the man returned to the clinic with the site of former ulceration presenting the fungating appearance of an ulcerated mucous patch, also others upon the tongue, together with a faint macular rash of the skin, which ten days later was well marked. There was no other sign of a possible primary lesion.

Case 3.—The following was possibly a chancre of the tonsil. Mr. X., known to author for several years, morals reasonably good, gives the following history: On April, 1904, there appeared a rash on face, body and legs. Previous to this he had been under treatment for deafness of the left ear, during which time he had developed an ulcerated tonsil, which while not very sore, was slow to heal. In the latter part of May following he presented a small papulo postular syphilide of face, and especially legs. He said that he had been taking some homeopathic blood medicine, and it did appear to be a mixed specific and iodide rash. There were two mucous patches in the mouth and post cervical glandular enlargement. A thorough search failed to show any sign of a chancre. All lesions rapidly cleared up under anti-luetic treatment, except the stains upon the legs, which are unusually marked upon the very white skin.

Will now report two cases of chancres of the female breasts, with photographs of one of them.

Case 4, July 18, 1897. Mrs. P., 27, three children, presents a typical hard chancre upon each breast, contracted from nursing "a neighbor's baby which died when seven weeks old and had crusts and scales all over it and looked like an old man"—her own words. The chancres appeared two months after having the infant to breast. Neither her eight-months-old child nor her husband have become infected, although there is a well marked papular syphilide upon body and mucous patches in her mouth, vulva and on her breast. She suffers

from fever, headache and dizziness. She ceased nursing the child after the sores appeared; just how long she nursed the baby the notes fail to show.

Case 5, October, 1900. A beautiful woman, age 25, grass widow. Having accidentally met her one day and noticing a mild rash on her forehead, jokingly asked her if she had the measles. She said she had tried to see me that day, and then gave the following details: For several days she had had a cold in the head, and after a warm bath the rash had appeared. On examining her face and chest she did seem to have the measles, but there was something wrong with the character of the rash, and she was requested to come to my office the following day. While her social position was fairly good, there was reason to suspect that she was no relation to Caesar's wife. In the daylight and a thorough examination of body there was found under the right breast a small, flat ulcer, partly healed and covered by a thin, black crust. This, she said, had been present for several weeks; she did not know how long. The edges were hard and it was painless and two enlarged axillary glands could be felt. On her wrists were several characteristic papules of syphilis; there was no sign of any genital lesion and the mouth was clear. So like measles was the rash that we waited for several days. The patient, who had been a nurse, had suspected the possible nature of the disease from the line of the examination and questions asked and had said that if the sore was a chancre she knew from whom she had contracted the virus. The subsequent history was a full development of the rash and mucous patches, with a papular syphilide which returned at times for two years, especially if she painted in oils.

The following three cases present the initial lesion upon the lips:

Case 6, September, 1899. Well marked chancre on right side of lower lip, present six weeks; small papular rash on body and numerous patches on tongue. No special history of the mode of infection.

Case 7. Miss S., age 20, seen in consultation with Dr. Nickol Smith of Los Angeles. Indurated ulcer, size of a quarter, on upper lip, painful to touch, and bleeds easily; both submaxillary glands enlarged, roseola just appearing on chest and arms, infected probably by kissing. The girl was very nervous and hysterical, had headaches and was pale, so besides being warned against allowing any one to kiss her, little was said to her at the time.

Case 8, March 6, 1905. Mrs. R., age 35, widow; seen in consultation with Dr. La More. Chancre size of a dime in center of upper lip; said she had a cold sore there for six weeks which never healed. Both submaxillary glands enlarged, ulcer hard and painful, is dizzy, pale and has headaches, no rash. One month later Dr. La More 'phoned me she had a well defined syphilide.

The two following cases are almost genital and are reported to show the photographs and the peculiar size and location of the ulcers, the manner of infection, etc.

Cases 9 and 10. The photographs only are shown, as the notes have been lost. You see by these that these men have large oval ulcers presenting all the clinical signs of a chancre, situated just above pubes. The meeting of these two hoboos at the time the photographs were taken was unique, their remarks vivid. No questions on my part were needed to establish the fact that both had become infected from the same source in the same manner.

Case 11. Age 25. F. W. B. consulted me on

the 4th day of October, 1906, and, strange to relate, presented almost the same appearance as cases 9 and 10, both as to size and location of lesion. Owing to this man's intelligence, he being a traveling salesman, I began to hope that here I might find an explanation of the manner in which the virus had become inoculated, but he was unable to give any information except to say that he remembered that about the time of exposure there was a certain amount of irritation in this region, and he had indulged in scratching. The lesion was four inches above the Poupart ligament and slightly to the left of the median line, oval in outline and about one-half inch across. It had appeared between three and four weeks after exposure. Full secondary manifestations were present.

Case 12. Age 33. J. A. S., an advertiser, came to my service at the Medical College Dispensary December 11 with a history of having had for the past eight weeks a slowly enlarging ulcer in the right ear; this ulcer had begun within the external auditory canal as a small pimple; previous to its beginning he had not been under the care of any aurist, consequently we may eliminate infection from an ear speculum. That he had been exposed in the usual manner about this time he did not deny, but this was the only primary lesion that could be found. At present he has a hard indurated ulcer completely encircling and closing the external auditory canal and spreading around this aurifice nearly an inch in all directions, and apparently causing the cartilage of the ear to assume a cracked stellate arrangement with a rather free discharge and swelling of the ear in general. There is also a very decided enlargement of all the anterior-sternoid glands, extending well down the neck. Two weeks ago there appeared a general maculo-papular rash over the face and body. The mouth is clear, general health good with the exception of deafness in this ear, otherwise he presents slight symptoms of the ordinary secondary constitutional disturbance.

Disappeared from sight until April 7th last, when he came to my office for treatment of ulcerated lesion on forehead above left eye, the size of a quarter of a dollar.

Case 13. In February, 1906, there appeared at my clinic a boy of 16 years of age who presented upon the anterior and inner surface of the upper third of the right thigh two large oval ulcerations about three-quarters of an inch in their longest diameter. These lesions had appeared without any appreciable cause so far as he knew. They presented all the characteristics you would naturally expect for chancres in this location. He did not deny a possible exposure. They were recognized and treated as such, except that no constitutional measures were resorted to until after the appearance of a secondary rash, which occurred about seven weeks after he first noticed ulcers.

Case 14. Some time ago I saw in consultation a patient whose work brought him in contact with dead bodies in post-mortem rooms. He gave a history of having assisted in the performance of a post-mortem upon a man twelve hours after death by violence. He wounded his finger, and there occurred septicaemia, with, however, the formation of an ulcer, which was very slow to heal. This ulcer I never saw, for he came to me after it had healed, and at the time of the appearance of a papulo eruption on the chest, abdomen and arms. He also had at this time right axillary enlargement and the submaxillary glands also. I have never been able to find out whether the individual upon whom the post was performed had syphilis or not. The patient stated that so far as he knew there had been no other method whereby he might have become infected. I would like to know from members of the society whether they have ever known of an infection positively from a dead body.

TABES AS IT PRESENTS ITSELF TO THE GENERAL PRACTITIONER.*

By H. C. MOFFITT, M. D., San Francisco.

Tabes, like diabetes, chronic nephritis or exophthalmic goitre, may knock first at the door of the clinician, the surgeon or the specialist. It wears many masks besides the one of Hutchinson, and, in my experience, too often passes unrecognized. Those who have opportunity to observe, over long periods of time, patients infected in earlier years with syphilis, will appreciate what Fournier aptly termed the "initial polymorphism" of tabes. Not enough attention is given, as a rule, to analysis of the subjective symptoms of a patient. Pain, even indefinite peculiar sensations that can with difficulty be put into words, are often hints of beginning organic disease. The intercostal neuralgia or sciatica of yesterday becomes the initial pain of tabes in the light of the more careful analysis of to-day. The lessons of tabes, like those of brain or spinal tumors, of exophthalmic goitre, of parathyroid disease, of osteo-arthritis should teach due caution in the use of such labels as "neurasthenia" and "functional disease."

No one at this day should confound typical pains of tabes with rheumatism and sciatica, and yet the mistake is constantly made. Lightning pains frequently come in definite attacks, and are often influenced by weather. In a man seen recently, severe pains followed each rise of temperature occurring in the course of his chronic pulmonary tuberculosis. A man seen some years ago had typical leg pains following attacks of pain in the stump of an arm amputated years before. As in many painful stumps, the pain was referred to an absent hand that, as time went on, came nearer and nearer the stump. Finally, after a particularly painful spell, the hand seemed to join the stump, there were no subsequent attacks of stump pain and, more curious, no recurrence of lightning leg pains.

In four of my cases an intractable recurrent intercostal pain has been an early symptom. Ulnar pain and paresthesia have become, since Charcot's time, of great import. Cutaneous hyperesthesia may take the place of pain, and purpura or herpes may follow the track of pain.

A man seen in 1900 had for four years suffered terribly from trigeminal neuralgia. This had been bilateral—a fact almost sufficient to rule out true neuralgia—but was worse in the left upper jaw. All the teeth had been pulled two years before, leaving an open ulcer, and the jaw had been twice operated upon. The tabes had not been recognized because not suspected. In a woman seen five years ago, trigeminal pain and loss of many sound teeth had been an early symptom. The severe—even terrible—trigeminal neuralgia of tabetics is post-ganglionic, and operations do not relieve; in a man

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seen some years since, the pain still persisted after the Gasserian ganglion was removed.

Migraine first starting in adult life has, since Charcot, been rightly regarded with suspicion; it may be the first warning of organic nervous disease. I remember two cases in which this symptom alone called attention to the underlying tabes.

Lightning pains frequently precede or follow, or alternate with visceral crises. Gastric crises may be marked by pain alone, by vomiting or even nausea alone, or—the usual event—by both vomiting and pain. They may long precede other symptoms, and are commonly misinterpreted. Three years ago a young man was seen with typical recurrent stomach crises referred to tobacco poisoning. Last year the usual label “bilious attacks” was affixed to marked attacks that began and ended in the characteristic sudden way. The attacks may follow errors in diet or an alcoholic bout, as in a case seen recently, but usually no such influence can be traced, though Roux divides gastric crises into those purely nervous and those due to co-existing dyspepsia.

The enthusiasm for gastric surgery has opened new pitfalls for the unsteady feet of the tabetic. This year I was consulted as to the propriety of a second operation on an obstinate stomach that had failed to be relieved by a gastro-enterostomy done two years before in Chile. The pain and vomiting that had led to the diagnosis of gastric ulcer had recurred shortly after the first operation, and adhesions were now suspected. There had never been true ulcer symptoms, the stomach between attacks was normal, and there were many signs of tabes. In a young man seen last year, gastro-enterostomy had been done some months previously for perfectly typical crises thought to be due to ulcer. No relief had followed, and ataxia had developed quickly after operation. In a case now under observation, the right kidney had been regarded as the cause of the recurrent abdominal pain and vomiting, and had been sewed in place a year ago. The gastric crises have not in any way been influenced.

It would be interesting to note the incidence of gastric ulcer in tabes. I have never seen a case. It must be remembered from the reports of Mathieu, Marie, Free, Straus, Lerat and Neumann that hemoptysis may occur in crises; Straus draws analogy with the ecchymoses that occur after attacks of lightning pains.

The influence of tabes on the pain of organic abdominal disease should be noted more frequently. I have seen cancer of the greater curvature of the stomach, also cancer of the colon run a course without pain in tabetics. A case of pyelonephritis seen last year went to autopsy without causing local pain. Some years ago there was under observation a man of 40 with advanced tabes, extensive trunk analgesia and recurrent pyonephrosis on the right side. With blocking of the ureter, there would be chill and temperature, no local pain but a storm of

pain in the legs; relief would promptly follow discharge of the pus by the ureter after the condition had lasted three or four days.

Senator has recorded the cessation of crises for at least considerable time after nephroraphy, but certainly the cases must be few that offer any hope of relief by surgery. The enteroptosis so frequently found in tabetics is as well borne, as a rule, as the flat foot and the results of lax ligaments elsewhere. At times an abdominal bandage will relieve distressing flatulence and tenesmus.

Intestinal as well as gastric symptoms may be misleading. In a young man seen two years since, a peculiar obstinate diarrhoea that had resisted medication for over a year was the only symptom. There had been a syphilitic infection ten years before, the pupil reaction to light was nearly absent, and one knee jerk was difficult to obtain. In a man of 35, tenesmus with passage of four or five small stools daily had been the chief symptom for four years. A year after this began, there was bladder hesitancy and two years later onset of gastric crises. In four instances I have noted symptoms much like those of colon carcinoma. The patients have chief distress early in the morning. There is distention of the abdomen, moderate pain along the transverse colon, desire for stool several times repeated with passage of a little fecal matter, mucus or gas, and at times distressing tenesmus. In a man of 55 seen first three years ago, there was severe pain in the region of the hepatic flexure, tenesmus, attacks of sudden bloating and vomiting, and occasionally, during subsequent years, occult blood in the stools. There has since developed a zone of hypalgesia over the site of the recurrent pain, and the light reflex has been lost in both pupils during the past year.

Laryngeal crises are rare and, from my experience of four cases, usually misinterpreted. A woman of 31, infected with syphilis ten years previously, had what was called whooping cough four years before consulting me. The “pertussis” lasted over a year, and then the spasmodic attacks changed in character. Spells of cough would come particularly after laughing. There would be prickling in the larynx, then a severe paroxysm of brassy cough. If able to take a long breath and to keep from swallowing, the attack could be averted. If she swallowed, however, the throat frequently shut in spasm, there was a long stridulous inspiration, and several times she fell unconscious—the complete picture of laryngeal ictus. Attacks were irregular, without pain, and seemed to be precipitated by nervous worry or strain. If the interval between was long, the succeeding attack was always more severe. After the so-called “whooping cough” had lasted a year, occasional bladder incontinence would follow severe cough, but it was not until the third year that typical lightning pains made their appearance in the lower extremities. Examination showed the classical signs of tabes.

A man, under observation for three years, has se-

vere paroxysms of cough alternating with storms of lightning pains. A second man has had four attacks of sudden laryngeal spasms with unconsciousness in the past three years. He has bilateral sciatica of a typical character, and is undoubtedly in the initial stage of tabes. A third man, 36 years old, was seen in March this year. Nine years ago the left pupil suddenly dilated to twice the diameter of the right. He paid no attention to this nor to attacks of pain in the legs, which had recurred during the past four years, but had come seriously to consider severe spells of cough that tormented him frequently for over a year. The paroxysms would begin with tickling in the larynx, then followed a brassy cough, then belching, marked inspiratory stridor, numbness of fingers and toes, dizziness, and loss of consciousness for a few seconds. The man had typical tabes, a pulse of 140, inspiratory stridor and intense cyanosis on lying down. There was absolute paralysis of the abductors of the cords, and any effort caused marked dyspnea. Such a patient is in imminent danger, and should be advised to have tracheotomy done at once. As may be seen, laryngeal are of much graver import than gastric crises, though, like these, they may at any time suddenly cease. Death may occur in an attack even without previous paralysis of muscles. The paralysis of laryngeal muscles may be ephemeral, as is the usual case with tabetic eye muscle palsies, but as a rule they are more stable. Spasmodic cough in a syphilitic patient should raise suspicion of either aneurism or laryngeal crises, and should not too hastily be labelled pertussis. Symptoms of diaphragm irritation are not infrequent in laryngeal crises, and paroxysms of hiccough may occur in tabes. I remember one man tormented at intervals of weeks with hiccough lasting hours and days. A man seen lately with aneurism of the aorta has had four or five almost fatal attacks of hiccough during the past two years.

Some years ago I showed to the Society a woman with a Charcot hip joint, who had been advised to have the right femur enucleated for sarcoma of the femur. While in Vienna, Kolisko demonstrated two lower extremities that had been amputated through mistaking Charcot joints for sarcoma. At the same meeting, I showed the plate of a femur fracture that had healed with a great callus. The fracture had come without pain in a young man who simply turned around suddenly while running; tabes had not been recognized.

Mention has been made above of *mal perforant* occurring in the mouth. *Maux perforants* may occur in many unusual situations, but are commonly in the feet. They are by no means rare, and may occur as an early sign. Like other trophic changes, as Buzzard first indicated, they seem to occur more frequently in cases with visceral crises.

Some months ago I had ready to demonstrate two cases of spondylolisthesis of tabetic origin and, though these trophic lesions of the spine are very rare, I have seen three in the past two years. The dorsal deformity in one man was thought to be tubercular, though the complete absence of pain should have de-

manded examination for tabes. You can see from these plates how great are the destruction and overproduction of bone. In two instances seen lately Pott's disease has been wrongly labeled tabes on account of the marked ataxia and the failure of knee jerks. Local vertebral pain and tenderness, and palsy of the lower extremities should prevent confusion.

At times, trophic lesions are of uncommon kind. Some years ago, a man from the country was seen with sole complaint of recurrent swelling of the right leg at intervals of weeks or months. The affection was labeled angioneurotic edema, until in later years typical pains and signs of tabes developed. A few months ago, a young man was seen with exactly similar symptoms. Marked swelling of the right leg with redness but no pain would come on without cause at intervals of almost exactly three months during a period of two years. For two years now, the swelling has persisted, and a year ago a perforating ulcer appeared on the dorsum of the foot. There are the usual signs of tabes with marked sensory changes in the right foot.

Gangrene of the feet is not an unusual feature of long-standing tabes. Two years ago a man of thirty-five was seen with gangrene of the left foot, without other symptoms, but signs of tabes were present with marked changes in the peripheral arteries.

In one of my cases of trophic ulcer, early symptoms were the great heaviness and apparent weakness of the legs that so commonly bother the tabetic in later stages. Muscle atrophies and personae palsies are rare symptoms.

Long chapters could be written on the eye changes in tabes. It cannot too often be emphasized that the commonest cause of eye muscle palsies is syphilis in direct or indirect way. From the history of many tabetics, transient diplopia is an early symptom, and may precede more obvious changes 5, 10 or even 20 years. It is a symptom that must be asked for, as the early palsies are nearly always ephemerous. A woman, now under observation, was seen some months ago with view of passing judgment on a proposed appendix operation. There was frequently dull pain in the right hypochondriac and iliac regions, but in this zone there was definite hypalgesia, there was a large liver of doubtful origin, and it was learned that her husband was a tabetic. In the past month there was diplopia for a week, and the syphilitic origin of the entire affection seems definitely established.

The pupils give invaluable proof, not infrequently, of doubtful questions. An Argyll-Robertson pupil alters at once the view of an obscure persistent neuralgia, determines the origin of an insidious aortic insufficiency, helps in rational treatment of an enlarged liver, early arteriosclerosis, some cases of myocardial insufficiency. For practical purposes an Argyll-Robertson pupil always means syphilitic infection. As noted by many writers, it is not always easy to decide between cerebral syphilis and tabes. I have seen the reaction to light return

in two cases of pseudo-tabes under energetic specific treatment. Failure of both light and convergence reflex is always of more favorable outlook than the true Argyll-Robertson pupil. In a young woman seen last year, the diagnosis of syphilis of the liver was strengthened by a beautiful paradoxical pupil reaction,—the sudden and persisting dilatation of the pupil on illumination—and later confirmed by results of treatment.

There is little need of calling attention to the importance of fundus examinations to the general practitioner as well as to the nerve specialist. Optic atrophy and changes in the visual field may be the first signs of tabes. It has not been my experience, contrary to the ruling opinion, that the cases with optic atrophy run more slowly the gamut of other tabetic symptoms. Even advanced atrophy may escape the notice of the patient: a young man seen two years ago first knew of trouble when out riding—a piece of dirt suddenly closed one eye, and he was astonished to find he could not see with the other. It is of great moment at times to distinguish between the primary tabetic and secondary atrophy in differentiating tabes from the so-called pseudo-tabes of cerebrospinal syphilis. The onset of cranial nerve symptoms with headache or persistent neuralgic pain and the presence of neuro-retinitis would suggest, of course, cerebral syphilis and not tabes. We must remember in considering prognosis, however, that cerebrospinal lues may usher in tabes, and also that specific meningitis or gummata may develop in the course of tabes.

Even the superficial study of eye changes that can be made at the bedside will have a salutary influence in limiting the frequency of diagnosis of "purely functional disease," and I can not too strongly insist upon the necessity of routine use of the ophthalmoscope in private work.

To the specialist in genito-urinary diseases will come the numerous tabetics that Guyon has happily termed "*les faux urinaires*." Not a few patients first complain of failing sexual power. Fournier mentions the occurrence of emissions, particularly their frequent repetition, as an early symptom. In one of my cases, there would occur regular crises of emissions followed, as is frequently the case in the analogous clitoral crises, by most severe attacks of lancinating pains.

Bladder symptoms, retention, and even *slight* incontinence must not be dismissed lightly, though the patients lay little stress upon them. Failure properly to empty the bladder is common, and it is not unusual to find large bladder tumors in examining tabetics who maintain they have no trouble with micturition. A tabetic's future depends largely on the state of his bladder, and too much care can not be taken with the catheter. Pyonephrosis and pyelonephritis are not rare events. Some four years ago I saw a tabetic who was supposed to be having a relapse of typhoid. There had been temperature for three weeks, which had gradually come to normal only to begin anew after three or four days.

The patient was a tabetic who had long had cystitis demanding irrigation, the temperature was of septic type, and examination showed a large sac in place of the left kidney. Nothing could be done through the ureter, and nephrectomy was successfully accomplished, the wound healing well. Last year a man with recurrent chills, fever and sweating was sent me with the diagnosis of tubercular cystitis. He had typical tabes with foul cystitis and evidently, from the paroxysms of chills and fever, pyelonephritis. The bladder was shrunken and deformed, and no successful examination of the ureters could be made. The right kidney was very long, large and soft—the left apparently of normal size. There was absolutely no pain and no tenderness of kidneys or of testicles. The large kidney was thought to be the one diseased, and was exposed by a lumbar incision. It was pale, soft, and bled profusely on section, but was not diseased. The patient's condition forbade the exposure of the left kidney that had been contemplated, the wound became gangrenous, and at autopsy the left kidney was found presenting advanced stages of pyelonephritis. Clinical acumen should have suggested that the enlargement of the right kidney was perhaps compensatory. The kidneys of tabetics can, as a rule, be readily palpated. They have seemed to be frequently unusually small and soft—unlike the ordinary floating kidney.

Tinnitus and vertigo at times torment the tabetic over long periods of time. In a woman with incessant complaint of tinnitus, the history of three miscarriages and the demonstration of a sluggish pupil reaction to light and of absent Achilles jerks prevented a mistaken diagnosis of neurasthenia. A man of 40 had sudden onset of vertigo four years ago on looking down from the City Hall dome, and for two years could not go on the street unattended. In two cases initial symptoms have been peculiar confusion and terror in recurrent attacks that resemble those not infrequently observed in cerebral lues. Transient aphasia, tachycardia or sudden abdominal distention with belching may accompany the seizures. In a woman with gastric crises and many signs of the spinal type of tabes, there have been three attacks of transient hemiplegia during four years.

Many interesting questions in regard to tabes can not here be considered—*Die Ersatz Theorie* of *Edinger*, juvenile tabes, the descendants of tabetics, the incidence of late syphilitic lesions in tabes, the prognosis in different types of the disease, the causes of death in tabetics. It is well to remember that the disease is common in our community, that it is of interest from eminently practical reasons as well as affording, to quote Gowers, "a useful example of pathological reasoning and of the mode by which we discern the mechanism by which symptoms are produced."

Discussion.

Dr. Sherman: Dr. Moffitt's report of hematemeses as one of the phenomena in a gastric crisis is interesting because I have made the fact of the absence of hematemeses a differentiating point to

suggest looking for tabes and not to do a gastroenterostomy rashly. I have had two or three patients sent to me, one definitely for a gastroenterostomy, and have found tabes and so have avoided the operation. One must look for tabes in every case of a man who seems to present conditions calling for a gastroenterostomy. A curious thing in connection with these patients is the fact that they very frequently do not know, or else they have forgotten, that they had syphilis. One would think that an individual who had a chancre and who even made of it an entry in his diary, would remember that fact; but I have been recently told of a patient who did this very thing and completely denied that he had ever had the disease. Later he developed paresis, and the diary with the record fell into the hands of his physician. It seems to me in this, as in the case of tuberculous joints in children, we have to disregard the history of onset and development of the disease and be guided chiefly by the clinical symptoms. These we know can never lie, though they may be misinterpreted.

Dr. Power: From the standpoint of the general practitioner, the great interest in a paper like this is the strong accent it places upon the need of more careful and routine examination in every case coming into our hands. Men having the opportunity of going over the work of others often find mistakes, not always from lack of knowledge, but mostly from want of observation. When dealing with a disease like tabes you must expect constant errors in diagnosis unless the general practitioner abide by the rule that every case has to be investigated quite independent of any particular complaints the patient makes. It is only in that way that we can avoid errors. So far as I can see, where surgical mistakes have been made, they would not have occurred had the cases been submitted to complete examination for other lesions. Tabes gives rise to every kind of symptom—atrophic, organic and neurotic. We must make the general rule of going over all cases thoroughly and of paying special attention to eye symptoms. It is safe to assert that in the practice of most of the men in this city, certainly not more than 10 per cent use the ophthalmoscope, yet it is of great importance.

Dr. Krotoszyner: The following case will best illustrate the initial symptoms of tabes starting in the urinary organs. A few days ago a man of 43 presented himself at my office suffering from difficulty in urination. He had to wait a little before urination began and had to press hard in order to start the act of micturition. The condition had deteriorated lately. The history of the case elicited only one fact, that a surgeon in the East, after a careful examination, had pronounced his complaint as being caused by a large prostate. The palpation of the prostate per rectum proved the gland not to be enlarged. The urine was clear and did not contain anything of pathological note, either chemically or microscopically. No stricture. The cystoscope showed a trabecular bladder in its initial stage. There was also noticeable an absence of the reflex

of pain which is generally present when a steel instrument passes the sphincter. Upon these findings, I suspected tabes and upon a general examination my suspicion was substantiated. Upon close questioning the patient admitted having had a chancre 25 years ago and which was only treated casually and for a short time. I have seen six similar cases with the initial symptoms of tabes diagnosticable by the bladder. The majority of these cases had been treated for so-called bladder trouble for years with local applications, bladder washings, etc., while the etiological factor of the bladder affection was not recognized. In this connection it is worth while to relate the case of a young married man of 33 who had been treated for over two years for so-called prostatitis and whose infection of the bladder was so severe that a left sided pyonephrosis ensued, necessitating nephrectomy on that side. Since the removal of the left kidney and a general symptomatic treatment for his tabes, the patient has improved materially. Another case of initial tabes starting in the bladder was that of a man of 40 who presented himself with such severe pains in the bladder that I suspected a calculus. In this case the bladder soon became paralyzed and showed the symptoms of a paradoxischury. The urine dribbled away just like from a vessel filled to overflow. This patient was very much improved by general and local treatment. One of the most frequent complaints bringing the tabetic with bladder symptoms to the physician is the slowness and difficulty to start the act of micturition. This should be borne well in mind by the general practitioner in order to enable him to make the correct diagnosis and to institute proper treatment.

Dr. Welty: I wish to call attention to the laryngeal manifestations that sometimes present themselves. Dr. Krause, of Berlin, claims to be able to make a diagnosis of tabes dorsalis by the laryngeal picture. Of course this is not true in every case, but while I was there he had five or six cases that showed a picture of true tabes dorsalis. In these cases the laryngeal symptoms made their appearance prior to any other manifestations that the patient was aware of. Furthermore, we have a complete paralysis of both cords which will leave the patient in such a condition that he is liable to suffocate at any time. In such cases tracheotomy should be done unhesitatingly and done at once.

Dr. Nagel: Dr. Moffitt has mentioned some of the main eye symptoms in tabes. I should like to add a few remarks concerning the same, insofar as they may be the initial symptoms of the general disease. Regarding palsies of the external muscles, the doctor has pointed out their passing character, and it is very important to bear this in mind and not to attribute the trouble for that very reason to "rheumatism." With regard to Argyll-Robertson's symptom, I should like to point out that the refractory way the pupillary test for direct light-reaction is often made in diffuse daylight is, of course, quite insufficient to prove absence of reaction. The best

method, in my judgment, is the one practiced by Uththoff. Under exclusion of its fellow, you direct the eye to be examined to look into the artificial light in the dark room, then shade off the eye with your hand (enjoining patient not to move his eye) and now, with a strong convex lens, throw suddenly the inverted image of your light upon the cornea, which image the eye is absolutely unable to accommodate for. You are thus stimulating with the utmost amount of light the most sensitive part of the retina with accommodation absolutely at rest. We can in this way prove absolutely eventual absence of direct light reaction, and only such is of value in those cases where there are no other symptoms of the disease yet, otherwise a diminished pupillary reaction may be of importance. Finally, with regard to optic atrophy, I should like to say, that when such is discoverable with the ophthalmoscope a diminished central form sense is almost always present also. But since optic atrophy may precede other symptoms by decades, it is very important to diagnose it earlier, viz., by perimetry. You may find a general retraction of the field of vision; a finer test is examination of the fields for colors, and by varying the intensity of light you may eventually find a restricted field for red, and especially for green, very early.

Dr. Moffitt, closing discussion on his paper: With regard to what Dr. Sherman has said, we have to hunt up the syphilitic infection in these patients. The history is very often denied, or it is often forgotten, or the patient never knows that he has had it. A sign that appears not infrequently in tabetics that helps considerably is the recurrent herpes that some of these people have on the penis every few months. I have at least four tabetics, who ever since the infection have had outbreaks of herpes, always on the same place on the penis. I have come to regard it of decided use in strengthening the suspicion of diagnosis of syphilis. In the eye we should hunt not only changes of the pupil, atrophy of the fundus, but also minute changes in the retina and choroid. I have become impressed with the necessity of hunting not only in the patients themselves, but in the relatives. In young people with indefinite nerve symptoms we should go into the history of congenital lues. Here again the eye helps us out. I had hoped that Dr. Sherman would say something about operations on the nervous lesions in tabetics. I have in the hospital now a woman on whom Dr. Sherman operated for obstinate pain and muscular spasm in the left leg. He removed a part of the external popliteal nerve. This had no effect on the pain because the pain was central. It has had no influence on the tic. The muscular spasm has extended to other groups of muscles. In operating on the stomach in tabetics, I do not believe gastro-enterostomy is going to do good in the pure gastric crises. It may be advisable to do minor operations. We can relieve some of the infections by proper treatment. I have had mouth and throat infection treated with good effect on the general health. We should not overlook cases that can be remedied by surgery. There is often difficulty in making out organic disease in the abdomen of the tabetic. The surgeon should take particular care about the healing of wounds,—sometimes they do not heal at all and become gangrenous. I agree and disagree with Dr. Grosse. I do not believe we can be too careful in distinguishing true tabes from the pseudo tabes of cerebro-spinal syphilis. I have now a man under observation

whom I thought had very definite lesion-tabes. He was interesting because the gall bladder exploded without particular premonitory symptoms and Dr. Rixford operated in time and saved his life. That man, whom I regarded as a tabetic, came back to me after two years, and careful examination of the eyes showed that he had, instead of the ordinary fundus, a very definite optic neuritis in one eye. The tabes had not advanced and I gave him the ordinary syphilitic treatment, under which he got a great deal better. Dr. Welty brought up the question of laryngeal crises. In case of bilateral palsy with dyspnea, the proper thing is to do a tracheotomy at once. We have cases on record to show that after tracheotomy has been done the laryngeal palsy may recede.

SURGICAL TREATMENT OF MOTOR ANOMALIES OF THE EYE.*

By B. F. CHURCH, M. D., Los Angeles.

The diagnostic requirements and surgical exactness necessary in operative measures upon the extrinsic muscles of the eye are not exceeded in the realm of surgery.

Anomalous as the statement may at first appear, an external or an internal squint may have no connection whatever with faulty action of the lateral recti muscles, the causative effect being found wholly in the verticle, especially the superior recti. Also hypertropia, even with excessive upward rotation of the eye, may be the result of a faulty insertion of an internal rectus, and not to an overaction of the superior muscle.

Empirical or exploratory methods of operating have no place in surgery of the eye muscles. We must know, beforehand, the muscle, or muscles, that are at fault, and leave them in full possession of their physiological functions.

Exceptions to empirical surgery, or operating upon the muscles directly in line of the deviation, are those of high amblyopia and in which diplopia cannot be obtained.

A moderate tenotomy of the immediate deviating muscle may be performed, not to the extent of correcting the deformity, but as an aid to further positive investigations.

Great credit is due Stevens for his painstaking investigations of motor anomalies of the eye muscles, especially for his demonstration of the relation and close association of declinations of the visual axis with heterophoria and strabismus.

On the surgical treatment of the eye muscles Stevens¹ says: "The great principle which should guide in all the surgical treatment of the muscles of the eyes is that all the functions of movement should be made more perfect and more harmonious after treatment than before.

"Esophoria and exophoria are rarely primary conditions. If the case, for example, is one of esophoria, it does not follow that the inner muscles are too tense or that the outer muscles are relaxed. The cause of the esophoria may lie in the fact that the optic axes are normally above the plane of the horizon, or, much more frequently, in the fact that there

*Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

¹ Motor apparatus of the eyes. Stevens, 1906.

are such declinations as to make a nervous impulse toward convergence a part of the adjustment for parallelism of the vertical meridians. These and other important considerations are to be carefully weighted in every instance and treatment directed, not necessarily or generally immediately against the most conspicuous heterophoric tendency, but against the inducing conditions from which the conspicuous tendency arises."

In the consideration of operation measures for exophoria Worth² places great stress upon the necessity of observing the state of the dynamic convergence for near points. He advises against operation when there is an insufficiency of convergence, or, as Stevens expressed it, an exophoria in accommodation.

Stevens, on the other hand, claims that insufficiency of convergence is of no practical significance, excepting its slight value as a collateral test; that the condition is variable and may change from day to day, and does not represent the adjustments of the muscles.

The belief that a tendon, when severed from the globe and permitted to fall back, will form a secure attachment in its changed position is erroneous. It is probable that firm attachment never takes place. The tendon holds for a variable time, but almost exclusively by its lateral attachments. We cannot feel sure of our ground after a complete tenotomy, however skillfully performed. A correction of a deformity today may result in a more noticeable and intractable one as time passes. A rule ever to bear in mind, when operating upon the tendons of the eye, is to never destroy or seriously impair the functions of a muscle.

In high degrees of squint, with no hopes of binocular vision, or in some conditions of paralysis, it may be necessary to resect a part of the tendon. This is best performed with Prince's forceps, after the method of Worth, resecting a portion of the tendon, capsule and conjunctiva, bringing them forward and anchoring at the required position.

Recognizing the close association of accommodation and convergence, the splendid results which sometimes follow the correction of refractive errors, especially in cases of esophoria and convergent squint, observation abundantly proves the existence of causes other than refractive errors. The first and most important principle to recognize is that the etiological factor does not lie in an overaction, or an underaction of the opposing muscles. It is well known that excessive abduction and insufficient adduction may be present in convergent strabismus, and vice versa in the divergent form.

The cause for the heterophoria or heterotropia may be a lack of development of the fusion sense in the brain, withholding the normal stimulus for binocular vision; formation of the orbit to cause the visual line to be above or below the normal, faulty attachment of the lateral fibers of muscles, or an unequal plane of the visual axis of the eyes.

Rational surgery of the eye muscles for heterophoria

cannot be performed until the presence or absence of all these conditions is absolutely known.

Convergent squint, although in appearance is a direct turning of the eye, has, as a general rule, more or less of a verticle deviation, an excessive upward rotation of the squinting eye. This condition will be found in a large majority of cases, and, not infrequently, surgical means directed to the verticle muscles, preferably the superior rectus of the deviating eye, is all that is required or is desirable for a correction.

This inequality of the tension of the verticle muscles is also a very potent cause of divergent squint.

In a report of 200 cases of strabismus, reported by Stevens, it is shown that hypertropia, a deviation of one visual line above the other, is the principal causative element in 24½ per cent of them, an important factor in more than 50 per cent, and is present in practically all cases of concomitant squint.

Leaning of the image of one or both eyes is almost a constant accompaniment of ocular deviations.

The strongest visual impulse is that of maintaining images in an upright position. Objects not thus seen lose their equilibrium, buildings and trees appear to fall and walking is difficult.

This effort to maintain an equipoise is, in many cases, the sole cause of strabismus.

These anomalies of declination of the visual axes, or leaning of the meridians, can be indirectly effected by changing the insertion of the tendons of the superior or lateral muscles. A portion of the attachment of the tendon, in accordance with the meridian to be effected, is severed and advanced, forming an oblique insertion to the globe.

It is difficult, and sometimes impossible, to induce a strabismic patient to see the second image. Our efforts are thereby thwarted to accurately measure the deformity.

In such a case a partial correction only should be attempted, the object being to induce diplopia, a necessary condition for accurate measurements.

Presuming the deviating eye to possess a modicum of vision, the final correction should not be attempted until exact measurements are made. This is only possible when the patient can locate the two images.

Such a procedure may be slow and tedious, but the results obtained are well worth the effort.

THE OCCASIONAL FALLACIOUSNESS OF THE DIAGNOSIS OF ENLARGED PROSTATE MADE FROM DIGITAL EXAMINATION THROUGH THE RECTUM.*

By GRANVILLE MACGOWAN, M. D., Los Angeles.

To those who have acquired considerable experience in the surgery of the prostate it is very well known that the examination of this gland through the anterior wall of the rectum rarely gives any accurate or dependable information as to the situation and size of the tumors which actually prevent the

² Squint, by Worth.

*To have been read at the Thirty-seventh Annual meeting of the State Society, Del Monte, April, 1907.

free passage of urine from the bladder, or create disturbances in the rhythmical contraction of this vicus.

Given the symptoms of prostatism and the inference drawn from a rectal examination, which reveals a tumor in the anatomical situation of the gland, is always that the condition is one for which an enlarged prostate is responsible. In nearly every case the inference is correct. But there are exceptional instances in which the most experienced surgeons may be deceived.

The three cases upon which I report in this writing are of this character.

Case I. J. T. B. 52, married, farmer, a citizen of Temecula, came to me May 5, 1898, with total retention.

History: From childhood had an irritable bladder. At 20 he had a gonorrhoea which was readily cured. Married at 22, and has been a person of good habits ever since. About 1890 he noticed some lessening of the force of his urinary stream and soon afterward had to rise at night to pass water. The power diminished and the nocturnal frequency increased until in 1893 he was compelled to resort to the catheter to empty his bladder, and he had led a catheter life continuously until increasing irritability of the bladder, and the desire to be relieved of the tyranny of the catheter brought him to me.

Examination: The man was wan and haggard from pain and loss of sleep, but the examination of the organs of the chest cavity and abdomen was negative. His kidneys were not enlarged or tender upon pressure. No obstruction in the urethra until the prostatic portion was reached. A soft rubber catheter would not pass into the bladder until stiffened with a stylet, and a silk Mercier required some force to enter. The bladder contained 180 cc of very purulent ammoniacal urine. The bladder base was examined through the rectum before passing a catheter and a marked bilateral smooth enlargement of the prostate noted. After catheterization a bimanual examination disclosed a tumor in the position of the prostate.

Under an anesthetic he was sounded for stone with a negative result. The bladder was irrigated twice daily until May 10th, with a 1-30,000 solution of silver nitrate, when a prolonged and careful cystoscopic examination was made. At this examination a number of physicians assisted; a demonstration of the bladder was made to the class of students, and the cystoscope was withdrawn and replaced several times.

The conditions found were those of a chronic cystitis. The image of the bladder neck showed a marked protrusion of the prostate into the field below, to each side and above, but there were no distinct nodules projecting. A diagnosis of retention from enlarged prostate was made and on May 20th, a perineal urethrotomy was made preparatory to the removal of the gland. Upon enlarging the cut in the membranous urethra with a Blizard, which I happen to prefer always to tearing or boring these tissues with the finger, there was a sudden gush of pus and debris. Upon following the knife with my finger it entered a hole in the anterior margin of the prostatic capsule which had been made by my knife cutting on the bottom of the urethra, and one by one I withdrew a large number of faceted phosphatic calculi, some of which easily crumbled.

Upon sweeping my finger around on both sides I found there was nothing left of the prostate except an excessively thickened capsule, which had been so tightly spanned about the abscess cavity that it had, by pressure upon the stones contained within it, completely blocked the passage of urine and ac-

curately simulated to the examining finger in the rectum, and to the cystoscope an enlarged prostate. There evidently was some communication with the urethra for the stones were stained by methylene blue which he had been taking for a month before he came to me. There was always more or less purulent discharge from the urethra but this aroused no suspicion of a prostatic abscess, for there was no fluctuation to be detected in the prostate, and there had been no pain referable to this organ, and as the irritability of the bladder was so great that he had to pass a catheter every hour of the twenty-four the mechanical irritation of the dirty catheter was sufficient to account for the presence of urethral pus. His physician had passed sounds for him, he had been in the habit of passing sounds himself at times to "loosen up," as he called it, the bladder so that the catheter would pass more readily. I sounded him for stone as also did my assistant, and we passed the cystoscope several times without ever anything occurring to make any of us suspect the presence of these stones which lay packed all around the prostatic urethra.

Case No. 2, B. W., 37 years; laborer. Referred to me by Dr. Frank Bullard, Jan. 20, 1904.

Complaining of great frequency and difficult urination for five months. He never had previously any serious illness. At 27 and 32 had light attacks of gonorrhoea.

Examination: Testicles normal, no stricture, no enlargement of glands of groin. Bladder capacity 150 cc, residual urine 15 cc. Urine acid, specific gravity 1022, contains pus, a few red blood corpuscles, some albumen but no casts, no tubercle bacilli, but streptococci, and colon bacilli present.

By rectal examination the bladder being empty, the prostate appeared very large and nodular, the middle and upper portions seemingly projected into the bladder. There was no enlargement of the lymph glands out along the sides of the pelvis and no involvement of the seminal vesicles. It was noticed that the extreme limit of vesical distensibility was 150 cc and that upon bimanual palpation the bladder wall was thick; this was however attributed to a pericystitis; and as the patient was very anxious for the relief to be obtained from a vesical drainage no cystoscopic examination was attempted. On February 2nd I did a section alta upon him. As I neared the bladder the character of the tissues told of malignancy. The whole superior wall was occupied by a thick and heavy epithelioma which filled the bladder space, rested upon the trigone and felt then, as before operation, to the examining finger in the rectum, like a growth in the prostate, though the region of the trigone was not actively involved in the cancerous process, and the prostate was healthy.

Case No. 3.—Mr. R. C. M., 70 years. Nov. 2, 1906. Retired railroad officer.

For many years he has had some frequency and some difficulty in passing urine due to a tight stricture of the phallic urethra. For five months he has had complete retention and led a catheter life.

Examination: Dense stricture 16 F., extending from the meatus to a point $2\frac{1}{2}$ cm posterior. Prostate feels through the rectum enlarged, but not clearly outlined, giving rise to suspicion of cancer of bladder base. Bladder capacity 900 cc; urine cloudy and full of pus. The silk catheter used gave upon entering the bladder a distinct sensation of pushing something aside. Urine acid, specific gravity 1020, cloudy and full of pus. On November 6th, I cut the stricture and examined the interior of the bladder with a Kollman cystoscope. The image of the bladder neck was very irregular and many projections could be observed about it. No definite image of the trigone could be obtained and neither ureter could be seen. No satisfactory view of the superior bladder wall could be gotten.

November 8, Sectio Alta. Upon introducing my

finger into the bladder a cavity so enormous was encountered that I thought I had broken into the peritoneal cavity, but in the anterior part of its floor I found an elliptical opening, 4 cm long by 2 cm broad, into another chamber in which I could feel the sound passed into the bladder through the urethra. This opening was enlarged, an assistant passed two fingers in the rectum and on then exploring the lower vesical cavity and the posterior urethra I found there was no enlargement of the prostate at all, either intravesical or intra-urethral. I was dealing with a peculiar vesical deformity the conditions of which had become exaggerated by the strain incident to the long existing obstruction of a tight stricture.

It was really an hour-glass bladder the ureters running diagonally across the lower wall of the septum, ending in a trigone which had gradually hypertrophied until it sagged into the vesical outlet, producing total retention and simulating to the finger in the rectum prostatic enlargement to such a degree that in the presence of the other symptoms deception was easy. The passage between the two chambers was anterior to the dip of this mass.

The operation for relief of the condition consisted in removing a section of the septum, 8 cm long by $3\frac{1}{2}$ wide, so as to provide for free drainage and approximately throw the two chambers into one. The trigone was then raised, the heavy intra-ureteral bar excised, the ureters dissected out and carried to the end of the raw surface left by the removal of the septum at its junction of the lower bladder wall, a distance probably 7 cm and there securely anchored in a denuded space prepared for them. It was found necessary to resect a portion of the right ureter. The patient made an uneventful recovery. The abdominal wound leaked a very little for about ten weeks. He now passes from 180 to 240 cc of urine every three to four hours in a good stream and does not have to rise at night. He passes the catheter once a day and withdraws from 200 to 250 cc of urine.

A cystoscopic examination was made at the time of writing this report, April 15th, and a very good view of an unobstructed bladder neck obtained. The mouth of the right ureter may be seen in its new position a long way off from the bladder neck. The urine may be seen coming from the left ureter but the mouth itself not observed for it is concealed by a sag in the bladder wall.

I suppose that other surgeons doing many bladder and prostatic operations might add to this experience. But whether they can or not do so, I want these cases to go on record as illustrations that in an apparent condition of prostatism, with an apparent tumor of the prostate to account for it, there sometimes is not really a real prostatism and the tumor is not really prostatic, however much it may seem to be so from a carefully conducted rectal examination.

A FATAL CASE OF PEMPHIGUS, BEGINNING IN THE PHARYNGEAL MUCOSA.*

By M. W. FREDRICK, M. D., San Francisco.

That the mucous surfaces can participate in or be the starting point of almost all the pathological processes which arise on the general integument is such a well-known fact that it need not be insisted upon here. We have only to think of the exanthemata and syphilis to obtain a forcible illustration of

our point. The trouble in recognizing the pathological processes lies in the changed appearance of the lesions on the mucous surfaces, which often makes a diagnosis difficult or impossible. This is more liable to be the case if the disease in point is a rare one and there is no concomitant skin lesion to serve as a diagnostic guide. I might soothe my diagnostic pride with the reflection that many authors maintain that a diagnosis of pemphigus, when affecting the mucous surfaces alone can not be made, but I will freely admit that I was astonished when I at last saw what I was dealing with in the following:

Mrs. J., widow, aged 68, had always enjoyed good health, and had raised four children who are in fairly good health. While there is a general neurotic tendency in the children, it is absent in the mother. I had seen the patient before for several minor things, such as the correction of her refraction, and some slight middle ear trouble, but had never treated her for anything of consequence. In October, 1904, she came to me with the history that the day before, while drinking coffee and eating a slice of bread, one of the breadcrumbs had scratched her throat. Examination revealed a long, narrow excoriation in the region of the right pyriform sinus, such as might easily have been caused by the passage of a rough body over the mucous surface, and treatment was given accordingly. She returned several days later with a similar lesion below the left tonsil, for which she could not account. At the same time I noticed a very much engorged vein crossing the right tonsil, and sent her to her family physician, Dr. Chas. G. Levison, for general examination; he reported that there was nothing wrong with the patient except a general lack of tone, for which he prescribed tonics and Nauheim baths. She came to the office on two more occasions, several days apart, with new lesions in the region in front of the tonsils. After that I did not see her for about a week, when I was asked to visit her at her home, as she was too weak to go out. I found that she had a number of new lesions on the posterior part of the tongue and on the interdental parts of the buccal mucosa. These spots suggested eroded mucous plaques more than anything else, except on the tongue; where they had coalesced, presenting a picture such as one often sees in severe cases of mercurial stomatitis, a broad, grayish patch occupying almost the entire breadth of the tongue. Eating had become painful by this time. Dr. Levison and I sought to discover the source of the trouble, without success. There was no history of lues or ingestion of mercury. Her dentist stated that he had not used any material containing mercury in her mouth. The lesions in the mouth kept growing more numerous until finally the whole mucous surface was covered. The pain and discomfort kept increasing in the same ratio, and eating was almost impossible, although free use was made of orthoform, anesthesin, and solutions of antipyrin. The etiology still remained obscure until one day, while I was calling on her, her night-dress slipped disclosing a necklace of blebs, some already dry, and some still fresh, which at once gave a clue to the diagnosis. These blebs had been present several days, but had been wrongly ascribed to the baths which the patient had been taking. The next day several blebs appeared on the lips, and the patient became hoarse, showing that the disease was extending downwards also. On the conjunctiva several small patches appeared, but not until several days later were blebs seen on the lid margin. Whether this process on the conjunctiva would have given rise to essential atrophy or shrinking of the conjunctiva could not be decided, as the process did

*Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.

not continue long enough in that locality. From this time on the spread of the blebs was rapid, until finally the whole body was covered, some of the blebs being two to three inches long. Even the vulva and anus were implicated, the lesions in this region giving rise to a great deal of pain. Drs. Regensberger and Montgomery saw the patient, and confirmed the diagnosis. Numerous measures were resorted to to relieve the patient's distress. Among other things she was wrapped in blankets which had been dipped in oil, but the annoyance of these was so great that she was returned to her ordinary night-clothes, and all the surfaces liberally covered with dusting powder. At last opiates were resorted to.

In view of the patient's age, of the fact that the blebs quickly became saggy and filled with pus, and, most of all, because the process had begun on the mucous surfaces, the prognosis was made infausta. This was confirmed by the patient's death taking place on Dec. 8th, about ten weeks after the first lesion had appeared. The extreme annoyance of having such an extensive area involved together with the impossibility of conveying nourishment to the patient (even nutrient enemata not being tolerated) were, without doubt the cause of the fatal ending.

This was the only case of pemphigus affecting the mucous surfaces that I had ever seen, and I may never see another, so rare are the cases. It is worthy of notice, in this connection, that my colleague, Dr. R. D. Cohn, has a parallel case to report to you at this meeting.

Having lost all my notes, I can not give exact data on this case. I know there was some fever, but I remember that it never exceeded 103.

I have seen several articles of late bearing upon the diagnosis of dermatoses when occurring on the mucous surfaces. A late number of the *J. A. M. A.* contains a very good article by Dr. Linn Emerson, of Orange, N. J., on the appearance of lichen planus in the mouth. If these lesions are confined to the mucous surfaces, and remain confined to that locality for years, as they do in some cases, they almost defy diagnosis. Owing to the thinness of the covering and the moisture to which they are constantly exposed the lesions present hardly anything characteristic. Moreover, their rarity makes familiarity with them an impossibility.

MYOCARDITIS: ITS PHYSIOLOGY, PATHOLOGY, SYMPTOMS AND TREATMENT.

By NEIL DONALD GUNN, M. D. C. M., Pacific Grove.

In taking up the subject of myocarditis, I do so with a certain amount of apology, as the specialist may feel that it is a well-trodden path, but the general practitioner is, after all, the final court of appeal, and to such an one this paper is especially addressed. It is a subject that embraces nearly all heart symptomatology, and when we speak of such conditions as dilatation, hypertrophy and high tension, we are but dealing with entities or signs of a general vascular condition, that condition being usually summed up in the general term myocarditis. This term is more or less a misnomer, for it not only includes inflammatory conditions but also degener-

ations; the fact is, the latter embrace by far the greater number of pathological changes found. When, after many years of doubt, the clinician had evolved a working hypothesis to explain these various heart phenomena, physiology departed from its beaten paths and began to blaze new trails, and in the enthusiasm born of youth and inexperience, promised to clear up all that was obscure. Time has proven how much these newer methods have yet to develop before we can with confidence assure ourselves of what is taking place in the circulatory system.

Experimental physiology began most naturally on the circulation and the various physical and mechanical forces employed in propelling blood. The various reasons why the heart beats, offered since the discovery of the circulation, would fill a paper of some dimensions, and if one were to follow the arguments in favor of each explanation, it would occupy a volume. With all due respect to the dead and the living, "that vast army of experimentalists," we are still looking for light and still presenting problems that are unanswerable. Are we any nearer the cause of the heart beat and its various disturbances that were Bright and Brestowe? It is of interest to follow the various and varying moods and tenses of this question, and only a few references can here be made to the physiological work that has been done.

When Remak in 1844 discovered the ganglion in the heart walls, he founded a school that claimed that the heart beat was due entirely to nervous influence; Ludwig in 1848 described another group of nerve cells; then Bidder demonstrated yet another. As methods of research improved, Dogiel and Gerlach showed that ganglionic cells could be found in nearly all parts of the heart; Freidlander and Schweiger-Seidl and Valkman arrayed themselves with this school. These were the founders of a school that still has many advocates.

This theory seemed to satisfy clinician, physiologist and anatomist. The view certainly seems rational, as the great number of nerve centers and complex sympathetic network must necessarily have some function. By stimulating the various nerves connected with the heart the number of beats could be reduced or increased almost at will. Tropic disturbances could also be produced in the heart muscle, and what more was there to solve?

Engleman, an acute observer, happened while experimenting on an animal to notice that there was a rhythmic contraction of the ureter when all the nerves were severed; a segment of the same ureter would continue this rhythm; this led to the founding of a new theory, viz., the innate contractile nature of muscle.

Gaskell in England immediately began to study the muscle of the heart and showed that the vagus was not, at least constantly, an inhibitor of the heart, and when his great disciple, Martin, kept a mammalian heart beating outside the body for some months the myogenists seemed to have the best of the argument. This latter theory has been greatly strengthened by Professor Loeb of Berkeley,

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whose work on the influence of certain salts on the contraction of muscle has opened a wide field both to the physiologist and the clinician; and, though these chemic stimuli have not yet put us in possession of facts to warrant our feeding the heart certain ions, yet I see no reason why such treatment may not be later adopted.

If I might say a word "*en passant*" to those who are interested in heart work, it would be to study more closely the relations of the heart to the fluid it contains. An old theory and one I fear yet insufficiently abandoned "is that the heart is the last to suffer in wasting diseases," when as a matter of fact it is the first to suffer. Those who are interested in the myogenic theory would do well to consult the work of Cyon, who is the ablest exponent of this theory.

There is a late development in the anatomy and physiology of the heart which I must mention and one which I fear has passed like a brainstorm over our profession. This theory gives to the heart a sort of brain or a central distributing and conducting organ known as the "bundle of His." Many clinicians and not a few of the physiologists would have us believe that here lies the center for the control of blood tension heart rhythm; in fact, the sum total of the heart's activities. The probabilities are that there is more or less truth in all these contentions, but not all the truth in any one.

Comparative anatomy would lead us to the conclusion that in the lowly organized heart the beat is entirely due to the contractility of the muscle; but in the highly organized heart, as found in all mammals, it becomes necessary to have a nervous control. That is, conditions of temperature, digestion and muscular action are so complex and the calls made upon the heart so varied that there must be some unusual means of increasing or slowing the beat, and also of raising or lowering blood tension. This must necessarily be done by some mechanism connected with but not necessarily a part of the heart muscle.

In referring, again, to the "bundle of His" I may say that it will in no way conflict with the theory just advocated, but rather supports it. This bundle lying in the auriculo-ventricular walls is certainly a distinct anatomical body having its own capsule, surrounded by its own ganglia and closely related to the endocardium; paler in color than the adjoining muscle, connected with each heart cavity, it certainly must be thought of both in physiological and pathological conditions. When the final word is said, however, I think this muscular and nervous bundle will have shrunk in significance relative to its anatomical proportions. I will have more to say concerning this bundle when speaking of the pathology of the heart.

Pathology: Virchow was the first to describe acute parenchymatous myocarditis, a condition which he commonly found associated with all fevers. Zenker, who did much work on this acute condition, held that the change was due to the high temperature, and the higher the temperature the more liable was the heart to suffer. This view was at once adopted

by the practitioner, and efforts were made to keep the temperature down by all available means. The manufacturer of antipyretics reaped a harvest and the undertaker was made rich by the depressing effects produced on these weakened hearts; Osler was the first, I think, to suggest that the toxins and not the temperature caused the degeneration; it was Renault who proved this condition to be a parenchymatous change rather than inflammatory, as Virchow stated. This change was always accompanied by a segmentation and fragmentation of the fibre, also an enlargement and fragmentation of the nucleus, whereas the cement substance is somewhat dulled in appearance, more or less granular looking and swollen.

The heart on inspection is changed in color, size, and consistence, being described by some one as a sort of "dead leaf" color. Hektoen insists that it is neither the heat nor the toxins, but a want of proportion between the amount of work required and the ability of the fibres to do this work. In other words, a worn-out condition of the fibre; a good reason, by the way, why we should lessen the work put on the heart. It necessarily follows that if overwork can produce this change in a weakened fibre a great deal of overwork would produce the same change in a healthy fibre, and such we find to be the case in heart strain.

Daland in summing up recent literature on myocarditis quotes Fedeshi as having produced this condition by cauterizing a healthy heart, and, killing the animal a few days later, found conditions exactly resembling those present in the acute infections. This would lead us to the conclusion that any injury to the heart muscle may result in parenchymatous change. Just how far this degeneration can go without inducing permanent damage cannot at present be made out, but we are realizing more and more that many hearts which were never suspected and many more than were considered cured deceived us and the regeneration was not complete. In fact, many claim that this change is never wholly recovered, but leads to a progressive degeneration. This, I take it, is an extreme view.

The latest pathological announcement relates to the muscle "bundle of His," which I mentioned previously. The claim is made that in acute infectious diseases there is not a general myocardial change, but in a great number of cases, at least, the change is confined to this conducting bundle. They do admit that diphtheria does produce a general and acute rheumatism, a localized spotted subendocardial degeneration, but not so the other acute infections, and in 112 cases of acute heart failure examined by Tawara it was this bundle that was at fault in every case.

Erlangen of Johns Hopkins in his experiments proves that pressure on this bundle may produce irregularity, intermittency and even death; so that by analogy we may reason that an inflammatory deposit or vascular change in this bundle might do much damage. If these observations and experiments be true, then we must forsake, at least in part, our old position; but that the heart walls and the

valves take some part in these pathological changes seems to me undoubted.

Chronic myocarditis is comparable to arteriosclerosis, some fibre bundles being much more affected than others; the tendine and papillary muscles suffer most, especially those in the left ventricle. The ventricular wall subjected to the greatest strain usually suffers most, but other questions of interference with the circulation, etc., have to be considered; that overwork and high tension are responsible for many of these changes is as true as in arteriosclerosis.

The coronary arteries decide in great measure the condition of the heart walls, as they preside over nutrition. If one coronary is more affected than another, the corresponding side of the heart suffers most. The left coronary, owing to its situation, is most frequently affected, and for this reason left-sided heart trouble is more common than right.

This paper will not admit of the discussion of brown atrophy and amyloid heart or the granulomata.

Symptomatology: Louis of the Charite was the first to describe the sequence of physical signs in the acute infectious heart. The first sign is accentuation of the pulmonary second sound. This is explained by overfilling of the auricle, due to a weakened ventricle. Second, mitral insufficiency, due to dilatation, accompanied sooner or later by a mitral murmur at the apex. Third, reduplication, due to increased pulmonary and lessened systemic tension, causing the aortic to close later than the pulmonary valves. Fourth, when the intoxication is uncontrolled and the disease runs into weeks, there comes a systolic basic murmur called by Potain cardio-pulmonic murmur. This murmur has stirred a good deal of discussion as to its causation, and is usually considered due to dilatation of the ventricle and auricle. A similar murmur is sometimes found in apparently healthy hearts, but you can make it disappear by asking the patient to stop breathing. It is not always found even in advanced cases, and it seems to me that a peculiar sagging and a change of relations between the heart and the great vessels is responsible for this bruit. The pulse rate is by no means constant, sometimes slow, sometimes fast, and occasionally irregular, the slightest movement often causing great acceleration of the pulse or even a sudden asystole. This is especially noticeable after pneumonia and diphtheria. Irregularity of pulse in these cases is not common and heart block, which has become so fashionable recently, has been in my experience a rare symptom.

Percussion often reveals little, as the dilatation is not sufficiently pronounced to be made out, but with much care the right heart will be found more or less dilated, the left ventricle being the last to enlarge.

Chronic myocarditis may be of many years' standing before discovery, and sudden failure leading to death may be the first suspicion that we have a heart lesion. These cases usually, however, begin their symptoms by palpitation, shortness of breath, indigestion and general muscular weakness.

Tachycardia, or the runaway pulse, may be the first evidence of a diseased condition. Such cases, as a rule, have a serious prognosis, as the great amount of overwork due to the rapid pulse dilates the heart beyond possible recovery, and palliation is all that we may hope for. Bradycardia, or very slow heart, is in my experience a somewhat rare beginning and is not so grave as a very fast heart. Arrhythmia, which we sometimes find as a functional disorder, usually accompanies dilatation, especially of the auricles; whether the "bundle of His" really controls the rhythm of the heart, still needs confirmation.

Asthmatic attacks, sometimes called heart asthma, is a fairly common symptom, and such a symptom, appearing late in life, should always lead one to examination of the heart. Digestive disturbances due to engorgement of the portal vessels are quite common. Albuminuria is quite a common condition, and it is often hard to decide whether due to renal engorgement or to an actual renal disease.

Changed mental conditions and delirium are usually late and dangerous manifestations. Cheyne-Stokes respirations, a late manifestation, are as a rule, but not necessarily immediately fatal. Oedema and general anasarca usually come sooner or later. If the right heart be affected, then the pulmonary symptoms predominate—dyspnoea, rales, cough dilated jugulars, with venous pulse in the neck, etc.

On examination of the heart one finds enlargement and dilatation of varying degrees, with dilated valves and regurgitant murmurs. One must not forget that if the heart musculature become extremely weak, murmurs may disappear and return again as the muscle tone increases. The right heart may remain fairly good for a long time after systemic symptoms show themselves and vice versa. The intensity of the murmur offers no reliability as to the gross lesion. In those large hearts accompanied by contracted kidney there is still discussion as to the real cause of the trouble. Bright was of the opinion that the increased blood tension and hypertrophy were due to circulating poisons. Traube, on the other hand, put it down as a simple physical problem due to greater force being required to force the blood through the kidney.

It is a question whether simple parenchymatous changes in the kidney do produce a rise of blood pressure. The toxic theory has of late revived and diseased glomeruli are said to be responsible for the improper filtering of the poisons circulating in the blood; these poisons being responsible for the heightened blood tension.

There are cases of arterio-sclerosis and enlarged heart where the kidney seems perfectly healthy, but that there is a renal inadequacy in these cases is undoubted, as the blood pressure can be immediately lowered by lessening the nitrogenous diet or by a purely milk diet.

Treatment.

The acute infectious heart needs the greatest care; elimination of the poisons by keeping skin, kidneys and bowels active; absolute quiet in a recum-

bent position; as little moving in the bed as possible; no talking and no excitement; one day and one night nurse and no one else allowed in the room.

Antitoxine in diphtheria and streptococcic infections is of great value. Digitalis, if at all, should be given with caution. Spartein acts well and does not produce restlessness as strychnin sometimes does. Strychnin must always be considered, and is, one of our sheet anchors. Nitroglycerin in a crisis, but its action is so brief that its continued use is not usual. Alcohol may sometimes do good, but as a rule is harmful, and should be given with the greatest caution. Ammonia and its various salts are good stimulants and are followed by no bad effects unless it be on the stomach. After the danger point has passed, diet must be free, iron and bitter tonics administered and the convalescence prolonged for some weeks after all signs have disappeared.

In chronic cases, to use an Irish bull, the best treatment is to prevent the disease. These cases often have a long premonitory period, shown by high tension, pulse plethora and a tendency to a fat accumulation. It is here that a bit of good advice may save trouble. Smoking, drinking and over-feeding, especially of nitrogenous food, should be strongly condemned. High tension pulse is usually possible of diagnosis by the trained finger, but the sphygmo-manometer is much safer and with a little experience gives fairly accurate information.

Even after beginning degeneration in the heart and blood vessels, much good may be accomplished by regulation of the diet, changing of habits, the administration of iodides and nitrates and by nauheim baths. Cold bathing, in these cases, should be avoided; this is especially true of the fatty heart. Exercising of a quiet and unexciting kind needs to be recommended, such as golf playing and slow walking on the level. Hill climbing as recommended by Oertel, should be under the close supervision of a physician.

When the breakdown comes and compensation fails, then absolute rest in a recumbent position between blankets, in a temperature kept as near uniform as possible, must be enjoined. The food must be simple and easily digested, and if the kidneys are affected, the plain milk diet. Schott baths are of great value in slowing and regulating the pulse and dilating the superficial vessels. The resistance movements which go with these baths are of benefit, but should be given by a trained assistant.

Drugs.—Digitalis stands pre-eminent, but it must be of proper strength and proper preparation. The usual tinctures and tablets vary greatly in strength and composition, and many failures are due to an ignorance of this fact. The alkaloids of digitalis are not comparable to the whole drug. The English leaves should always be used, as they are stronger and much more uniform in composition than any other variety. I usually give infusion made fresh each time. Of the powder, one to three grains given in each dose. Boiling water is poured on the leaf or powder, allowed to stand from 20 minutes to half an hour, pour off the infusion, add cream and

sugar, or lemon to taste and drink as ordinary tea three to four times a day after food. When given in this way it seldom disagrees with the stomach and scarcely ever fails to produce results. It is a double-edged sword, however, and must be watched. The patient should not be going about his daily duty when taking it. If the pulse becomes too slow or after being slow suddenly gets fast or if urine begins to diminish, then stop the drug for a few days. Spartein is of great service in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain, alternating with strychnin every three or four hours. Strophanthus and the many other heart remedies may be tried, the former may sometimes add to the efficacy of digitalis. In full-blooded cases active purgation and stimulation of the kidneys are of assistance. Diuretin is especially useful in relieving dropsy and edema when the kidneys are healthy.

In greatly dilated hearts with very irregular pulse, general edema, etc., there is nothing that gives the relief which free bleeding does, and this may be repeated as occasion demands, being careful not to produce acute anaemia. Where there is abdominal dropsy, resort to tapping and repeat at intervals, being careful not to too suddenly lessen intra abdominal pressure.

Morphin, though a heart tonic of great value, must be given guardedly, especially where the kidneys are at fault. Where there is great restlessness and delirium nothing acts so well as morphin in $\frac{1}{8}$ to $\frac{1}{4}$ grain doses.

The nutrition must be watched, especially in cases that have been depleted for a long time. We should give plenty of wholesome, easily-digested foods, with the addition of dry wines or a little good whisky. If the patient improves, massage and carefully-supervised resistance movements should be given. Business affairs all settled, there may be a long period of comfortable invalidism.

INJURIES OF UPPER END OF FEMUR IN ADOLESCENTS AND CHILDREN.*

By JAMES T. WATKINS, M. D., San Francisco.

On April 17, 1905, I saw J. W. of Eureka at my office. He was 13½ years old, moderately tall and weighed 152 pounds. He had never had any severe illness; but six weeks earlier a wagon had been backed up against his left hip, causing him to be thrown back against the side of the barn. He did not fall down, and although he complained of pain in his thigh and knee, neither then nor later did he go to bed. While in bed or lying down, he was free from pain. Still gradually his limp and pain had increased up to the date of his coming to see me.

Inspection showed a very much too heavy adolescent. He lay with his limbs in full extension, and with a very little more outward rotation on the affected side. Still the contours of the two sides were practically symmetrical. Measurements showed an atrophy of about a centimeter and a half of the affected thigh. There was about the same amount of shortening. The trochanter appeared to be a little above Nelaton's line, but the boy was so fat that this point was hard to determine. There was a little limitation of motion in all directions, most

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easily demonstrable in abduction, but it was not marked, nor the kind of limitation one encounters when there is a mechanical obstruction present. It was more like the muscular spasm of beginning coxitis. There was no trochanteric thickening; but sensitiveness to pressure over the femoral head and neck. While lying on the table he was not able to raise his extended leg from it. His temperature was normal, and a general physical examination elicited nothing further.

Disregarding remote possibilities, the differential diagnosis had to be made between (1) beginning coxitis, (2) traumatic coxa vara, (3) fracture of the femoral neck, and (4) epiphyseal separation. Such a differentiation being necessary because of its possible influence upon prognosis and treatment.

(1) The symptoms which appeared to point to a beginning coxitis were the limp, the atrophy, and the muscular spasm. The history of an introductory injury being not unusual with coxities, while the slight amount of shortening present might have been congenital. On the other hand, with a coxitis presenting so marked a degree of disability, the pain and weakness always and increasingly present while the boy was up, would not regularly and at once disappear on lying down; and a cross examination would elicit other symptoms of local and constitutional disturbance, night cries, trochanteric and periarticular thickening and infiltration, a low febrile movement, more marked atrophy, etc. Coxitis could therefore, with a reasonable certainty, be counted out.

(2) Traumatic coxa vara is uniformly consequent upon an injury, most frequently a fracture, of the femoral neck. But the change in the relation of the neck to the shaft would result in a lateral contour which deviated markedly from the normal, in more shortening, and in a distinct advance of the trochanter above Nelaton's line. Motion, while restricted in abduction, would be abnormally free in adduction. The patient would be able to raise his leg from the table. The limp, in proportion to the extent of the deformity, would be appreciably less, and Trendelenberg's symptom would regularly be present; but this is not the clinical picture presented by my patient. Evidently, then, the diagnosis lay between a fracture of the femoral neck and an epiphyseal separation. In this relation certain facts, first emphasized by Royal Whitman, had to be borne in mind. Epiphyseal disjunctions are far less common in all parts of the osseous system than fractures. Both are due to violence. Both, when occurring in young persons, are usually incomplete separations. Fracture of the femoral neck is relatively common in childhood. Only as the time for the ossification of the upper femoral epiphysis draws near does the protecting ring of cartilage become absorbed, leaving the epiphysis relatively weak. In a personal statistics covering 30 cases, of which 5 were epiphyseal disjunctions, Dr. Whitman noted that fracture occurred oftenest in healthy children as a result of direct violence; that disability was immediate, but lessened with repair; that the result was a slight limp and limited abduction, from the depression of the femoral neck, the condition resembling the impacted fractures of adults. The physical signs being shortening, outward rotation and elevated and prominent trochanter. Because the injury is not actually within the joint, motion is free, except where it is limited by the osseous deformity, that is in abduction, inward rotation, and sometimes in flexion.

Epiphyseal separations, on the other hand, occurred as the result of a twist, strain, or other slight injury, not in children, but in adolescents (his patients' ages ranged from 13 to 19 years), who were usually overgrown or over-heavy. The immediate disability was a slight limp, some discomfort in the thigh, and stiffness, persisting for weeks or months, when, after perhaps a second injury, or without it,

there would suddenly appear a very marked disability and aggravation of all symptoms. At this time the physical signs were but little shortening, with, however, marked outward rotation; the trochanter not prominent, because the neck bears a normal relation to the shaft; motion very limited from muscular spasm, the epiphysis, and therefore the injury, being wholly within the joint. There may further be joint effusion, sensitiveness to pressure, and occasionally a resistant swelling appears in Scarpa's space. The epiphysis itself is, in advanced cases, displaced downward and backward.

With these facts in mind it was not difficult in my case, to diagnose an epiphyseal separation in a beginning stage where probably little more than the cartilaginous protecting envelope was ruptured. Several radiograms which were subsequently made showed the neck projecting at a normal angle from the shaft; while at the epiphysis appeared a distinct gap directed almost horizontally through perhaps two-thirds of its thickness.

In one of Whitman's cases which had progressed to the second stage, that of great disability, he found it necessary to open the joint and chisel off the sharp forward projecting portion of the neck; in another case he had to complete the epiphyseal separation, to take out a small wedge of bone, and, with the chisel in the space thus obtained, to lever the downward and backwardly displaced epiphysis into place. The results in each case justified the procedure. Painter, of Boston, in a similar case, wired the epiphysis in its new location. His result was functionally less perfect than that in the foregoing cases.

Because there was so little distortion in my case, it seemed best to treat it as one would incomplete fracture occurring in a child; that is, to very carefully carry the limb outward to the limit of normal abduction, and to maintain it there in a plaster of paris dressing till consolidation was complete. This was done, and only after 4 months, the boy's weight having been in the meantime greatly reduced by a fever, he was allowed to be about without a supporting apparatus.

The boy is now 15 years old, 5½ feet tall, and weighs 189 pounds. I lately had him examined at home according to specific directions, and, so far as could be determined, one leg was as good as the other.

CHRONIC FLATULENCE.*

By ALFRED W. PERRY, M. D., San Francisco.

Flatulence is an abnormal and uncomfortable distension of the stomach or intestines by gas. I maintain that it has nothing to do with the kind of food taken, but is entirely dependent on want of tone of the abdominal walls, or those of the stomach or intestines. It is true it is only a symptom, but after middle life it often rises to the dignity of a disease, urgently demanding treatment. Flatulence may be acute or chronic, and these forms are dependent on the extent of the interference to the blood-supply of the muscular coats and the rapidity with which it takes place. It is a most distressing symptom when associated with the diseases of the fifth and sixth decade of life, particularly angina pectoris, arterio-capillary sclerosis, and uncompensated valvular heart disease. In these, while there is dyspnea or pain, on moderate exercise, there is often comparative comfort on repose, unless flatulent distension of the stomach or intestines is added; then there is trou-

*Read before the San Francisco County Medical Society.

bled sleep and discomfort during every waking moment. The distress of the flatulence becomes so urgent, that it seems the chief symptom to be treated.

The source of the gas is either air swallowed with the food, gas generated from fermenting food, regurgitated from the intestines, or exhaled from the blood.

Schaeffer (1) says that nitrogen and carbonic acid are exhaled from the blood into the stomach and intestines under varying conditions of pressure. When any fluid or semisolid passes down a tube in contact with air, a great deal of the air is carried down with it; the air so passing into the stomach while eating, is soon warmed and expanded, and this causes the fulness felt by healthy persons a few minutes after eating. In a normal state of the stomach this slowly passes off through the pylorus, or is belched up without inconvenience. Whereas the result of an organic stenosis, or a spasmodic closure of the pylorus, is a stagnation of the stomach contents, the alcoholic, marsh-gas, or some other fermentations form a great deal of gas which is long retained. The ill-nourished stomach walls (as the result of the stagnation gastritis) dilate under the pressure and cause an upward pressure through the diaphragm on the heart, causing palpitation, vertigo, dyspnea, and often a sense of impending death. Where the heart is weak and laboring nearly to the limit of its power, sudden death is often produced. Albert Abrams (2) on gastrectatic dyspnea found in two patients that inflation of the stomach caused the heart dullness to disappear entirely, and by the X-ray the heart was found above the third rib and the stomach reached up to the third rib. Oppenheim (3) found that extreme inflation of the intestines in animals kills by causing heart failure.

The pressure of the gases which are always found in the stomach, varies (according to Schaeffer) from 35 millimeters of mercury while fasting to 135 during digestion in health; the pressure of the carbonic acid in the blood in the capillaries is about 80 mm of Hg, and consequently it is exhaled into the stomach and intestines when the pressure of the gases in them is below 80 mm Hg, and conversely is absorbed into the blood from the stomach when the pressure rises above 90 mm Hg. Von Otto (4) found that after ligation of the pylorus and cardia in dogs, the empty and washed-out stomach became quickly filled with gas. A part of the flatulent distension may depend on weak abdominal walls. The principal element is loss of tone of the muscular walls of the stomach and intestines. This is met with in the highest degree in diseases where the muscular coats are affected; in peritonitis, in severe cases of typhoid fever, in strangulation of large extent of the intestines, in mesenteric thrombosis. Jackson (5) finds extreme distension of the abdomen the earliest and most constant sign of thrombosis of the mesenteric arteries. Chronic flatulence is found by Max Buch (6) and Ortner (7) to be a frequent symptom of arterio-sclerosis of the mesenteric arteries. Kader (8) finds that any reduced

blood supply to the intestines causes distension. A familiar picture of the East Indian famines are the young children with emaciated faces and limbs and enormously distended abdomens; this is evidently from loss of tone from sub-nutrition. In those conditions, on the contrary, of increased tonicity of the muscular system, the intestines are contracted down into almost solid cords, as in tetanus, meningitis, and lead colic, in spite of the presence of constipation, half-digested food, and ferment germs, elements which should produce flatulence. Young and middle-aged dyspeptics who have constant heartburn and eructations, evidences of gastric fermentation, complain little of distension. The only young patients who complain of flatulence are the neurasthenics and hysterics, who have a low blood-pressure and a consequent congestion of blood in the splanchnic circulation.

I have shown then that flatulence, severe enough to demand treatment, occurs only in conditions where the muscular tone of the abdominal viscera and walls is decreased; it has nothing to do with the quality of the food, except so far as a certain diet will produce sub-nutrition and loss of muscular tone. I do not mean to say that the amount of gas generated in the digestive tract is the same with all kinds of food; but where a food rich in cellulose (as beans, cabbage and spinach) forms a great deal of gas, it passes off easily and does not distress a person with normal intestinal tonicity. As flatulence arises principally from want of tone, how absurd is the often-repeated advice not to take starchy or green vegetable foods. Without starch or its derivatives (dextrin and sugar) as the principal part of our diet, one will slowly starve, and the resulting debility can only increase the flatulence; without the green vegetables the intestinal peristalsis will decrease. The worst case of flatulence I ever saw (complicated with daily attacks of angina pectoris) was greatly benefited by spinach, lettuce and carrots, and the anginal attacks lessened. I have found Koumiss or sour milk, 6 to 8 ounces, taken one-half hour after meals, to be of the greatest benefit. Among drugs (on which I do not place much reliance), the best are strychnia, quinia, and especially extract of calabar bean. Oppenheim (3) found that animals put into a dying condition from extreme inflation of the intestines, if the air was let out and extract of calabar bean given, the animals recovered.

The flatulence depending on loss of muscular tone, any diet which leads to sub-nutrition, by the avoidance of any class of foods on the plea that it produces flatulence, can only make it worse. The adult body must have enough food to produce 2300 calories and 50 grammes of dry albuminoids (producing 205 calories) are enough. As found by the latest experiments of Prof. Chittenton of Yale College, you must also have 250-300 grammes of starch or its derivatives in the daily diet. You can change any article of food, but you must replace it by another of the same class or the nutrition will suffer.

The abdominal cavity is enclosed by the abdom-

inal muscles, the diaphragm, and pelvic floor, and in order that the symmetry of the abdominal cavity shall be maintained, each must have nearly equal strength; these muscular groups are antagonists and must develop together. To increase the power of a muscle it must not only have food but exercise; no drugs will make a muscle grow. The means of increasing the abdominal tonicity are electricity and exercise. The Faradic current has no effect on the intestines; the galvanic current rapidly interrupted has also no good effect; a current of 10 to 50 M A with 10 to 80 interruptions per minute produces strong intestinal contractions. The sinusoidal current was found by Albert Abrams to act well on the intestines. Horseback riding is a very good form of exercise; all the various forms of resisted movements. A very simple and effective home treatment is for the patient to place a ten-pound weight on the abdomen while recumbent, and to raise it up and down by the abdominal muscles for ten minutes twice a day.

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MINUTES OF THE CALIFORNIA PUBLIC HEALTH ASSOCIATION MEETING AT WOODLAND, OCTOBER 25, 1907.

The meeting was called to order by the president, Dr. A. E. Osborne, of Santa Clara, at 1:00 p. m. Minutes of the last meeting read and approved.

The president's modesty prevented the delivery of an address and he suggested that the time before the reading of the papers be devoted to discussing any matters that might be of interest.

The means of getting a better attendance and interesting health officers was discussed. Dr. Regensburger moved "that the secretary notify the different city and county health officers of the meeting and request that they send a deputy, the county or city to pay the expenses." Seconded and carried.

President Osborne suggested that a communication be sent to each health officer urging him to present the matter to his board and urge the justice of the city or county paying the expense.

Dr. Richardson brought up the subject of disinfection after and during a case of tuberculosis. It was urged that all rooms occupied by a case of tuberculosis should be disinfected after death or removal. During occupancy they should be kept clean. Sunshine and fresh air are the great enemies of tuberculosis and should always be allowed free ingress.

At 2:00 p. m. the president introduced Dr. H. J. B. Wright, who read a paper, "Experiences of a Health Officer," which was full of good thought and suggestions, dealing largely with collection of garbage, vital statistics, milk and tuberculous cows.

The discussion was interesting, many of the members taking part. Dr. Simpson said that a solution of one part formalin to nine of water sprinkled on a pile of garbage, garbage can, or in sinks, would destroy the odor. Dr. Richardson, of Salinas, thinks that too much stress is laid upon the tuberculous deposit being in the udder. If a cow has tubercu-

losis, no matter in what organ, the discharges are liable to be full of the bacilli and are dangerous.

President Osborne thinks the people are not ready to pay the added expense for pure milk and need educating. He also said that if affected cows were turned out on the range many would recover, and the loss would be less to the dairyman. Dr. Browning asked what would be the effect of parturition on these cows—would they not rapidly break down?

Dr. Osborne stated that less than one-tenth of one per cent of calves from tuberculous cows are tuberculous, and that if they raised two or three calves the loss would be small.

Dr. Regensburger thinks the municipality or State should bear the loss when the tuberculous cows are killed to protect the people.

Dr. Simpson said that the tuberculin test on cows had a curative effect, and cows having it and turned on range gained rapidly.

Dr. Wright, in closing, said we must take things as they are. That to get good milk from non-tuberculous cows we must see that no tuberculous ones go into the dairy, and that after that it must be kept clean.

Prof. M. E. Jaffa, Director of the State Pure Food and Drug Laboratory, read a paper on "Some of the Phases of the Pure Food and Drug Law." The lecture was able and interesting and illustrated with stereopticon slides. He explained the law, that all foods and drugs must be honestly labeled, and that when this is done there will be a material falling off of the sales of many articles. That a mother will be more careful in giving medicines to her children when she knows they are composed of alcohol and opium. He showed by the results of experiments that food preserved with borax, boracic acid and salicylic acid is detrimental to health. He compared the nutritive value of the many prepared breakfast foods with white bread, and showed that while healthful, they did not contain the amount of nutriment claimed. The many health drinks, as substitutes for coffee, do not contain as much nourishment as skimmed milk.

Dr. W. F. Snow, of Stanford University, delivered an illustrated lecture on "Observations of Sanitary Work in Eastern Cities," from a tour of which he has just returned. Many of the Eastern cities are carrying on campaigns of education through street car advertising, distribution of literature, and public meetings. Many civic bodies are being interested and are doing a magnificent work in improving the sanitary condition of the cities and homes. The feeling is growing that no political influence should be allowed to interfere with public health. He recommends that every county board of health should be better organized and have a paid secretary, that a sanitary survey be made of the water sheds, dairies and vegetable fields of the State and a better co-operation of local boards with the school authorities.

At 5:30 the meeting adjourned until 7:30.

At 7:30 the evening session was called to order, and the papers of Prof. Jaffa and Dr. Snow were briefly discussed.

Dr. Browning moved that a legislation committee of three be appointed, the president being one, to consider needed legislation, and especially to have enacted a law by which the State should pay, in part or the whole, value of dairy cows killed for disease. Duly seconded and carried.

Dr. Snow moved that an organization committee of three be appointed to investigate the methods of Eastern organizations working in the interest of public health, and to organize and bring into closer touch the several organizations in this State. Seconded and carried.

Both committees instructed to report at next meeting. Committees to be named later.

Dr. C. C. Browning, of Monrovia, gave a lecture on tuberculosis, illustrated with the stereopticon.

No synopsis of the lecture could do it justice, for every sentence was full of thought and showed a complete mastery of the subject, and the hearers, at the close, saw this dread disease in the light of a natural growth upon a soil they had made fertile for its reception. They also were shown how to avoid inviting the trouble, and the probability of a cure if early attention is paid to the case.

At 10:30 the association adjourned to meet at San Diego at the time of the meeting of the State Society.

HEALTH OF SCHOOL CHILDREN.

By Dr. ERNEST BRYANT HOAG, Pasadena, Cal.

In accordance with your request, I here give you an outline of the work of the Medical Examiner in the Public Schools and in Throop Institute at Pasadena. At Throop Institute I have an office on the main floor. An appointment is made with each of the 350 students to meet me at the office at a given time. I examine them as thoroughly as possible under the circumstances and fill out a record card. Where it is thought necessary a letter is sent to the parent or guardian. Advice is given the students along appropriate lines. In very many cases they are referred to specialists for treatment of eyes, ears, nose or throat. General advice in regard to diet, sleep, exercise, etc., is given. In some cases the student is advised to drop some of his work, and in a few cases I require him to do so.

The institution gives me absolute authority in these matters. Teachers report to me any student who seems to be ailing at any time, even though he has had his routine examination. Students deficient in the quality of their work are reported both to the dean and to the medical examiner. Special talks on sexual hygiene are given to students in small groups selected according to age. The care of the health is considered a part of education, not as something separate from it. Teachers are advised how to detect signs of defected or failing health. The medical examiner gives a course on hygiene which as far as possible, is in the laboratory and so is practical.

In the public schools the idea is much the same, but as there are 4000 pupils I can only look after the worst cases at present.

There is to be an office for the examiner in the High School Building. Defective pupils which the teachers can discover (after advice on how to do so) are sent to this office. A letter of advice is sent to the parents and they are referred to their family physician. The idea is to correlate physical condition with mental condition. All delinquent and truant children are referred to me. The board of education considers that the medical examiner must decide many questions which formerly were relegated to an artificial system.

Promotions, ungraded classes, etc., will be largely under the advice of the medical examiner. As soon as possible he will be given assistants in this work. At present the examiner will spend at least a part of his time in the school rooms in observing the pupils in their daily surroundings. Eventually all teachers will be required to take a physical examination.

I spend from 8 to 9:40 at Throop Institute, and from 1 to 3:30 in the public schools. Both positions pay fairly good salary, and the examiner is given every possible encouragement and help in the work. I believe that New York City, Los Angeles and Pasadena have at present the most effective systems of medical examinations in this country. It is not the quantity of work done, but the quality which counts. Prof. Leslie in Los Angeles has charge of the work in that city, and is deserving of very great credit. He

has three medical assistants. I guess it is fair to say that the system used in Pasadena is largely my own idea. I feel greatly interested in the work and believe it will eventually be a new medical specialty.

NEW AND NON-OFFICIAL REMEDIES.

(Continued from October.)

ODOFORMOGEN.

A nearly odorless mixture of iodoform and albumin.

Actions and Uses.—Its action is that of iodoform, which is slowly liberated in connection with wound surfaces, making the action more persistent. It limits secretion, favors granulation and promotes drying. Iodoformogen is recommended as a dusting powder for ulcerated surfaces. Dosage.—Being about three times as voluminous as iodoform, it is usually applied undiluted to the affected parts. It may be used as a snuff in ozena, mixed with an equal amount of boric acid. Manufactured by Knoll & Co., Ludwigshafen a. R. and New York.

IODOTHYRINE.

Iodothyrene is a milk sugar trituration of the active principle of thyroid gland, 1 Gm. representing 1 Gm. of fresh gland and containing 0.0003 Gm. of iodine.

Action and Uses.—It is similar in action to Glandulae Thyroideae Siccae, U. S. P., but it is claimed to possess the advantage of more definite strength and absence of decomposable extraneous matter. Dosage.—Adults, 0.6 to 2 Gm. (10 to 30 grains); children 0.3 to 1 Gm. (5 to 15 grains) per day. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). E. Merck, Darmstadt (Merck & Co., New York).

ISOFORM POWDER.

Isoform powder is a mixture of para-iodoxy-anisol, $C_6H_4(OCH_3)(IO_2)1:4=C_6H_4O_2I$, an iodoxy-derivative of anisol, with an equal weight of calcium phosphate.

Actions and Uses.—It is a germicide and antiseptic in consequence of its oxidizing power and, in contradistinction to iodoform, it acts not only in a medium free from oxygen, but in conjunction with free access of air. It is claimed to be non-toxic in comparatively large doses and to be absolutely non-irritant to the unbroken skin. It is recommended as a substitute for iodoform. Dosage.—Internally, 0.65 to 2 Gm. (10 to 30 grains) per day. It is used externally as a dusting powder, as a paste with glycerin, as ointments, suspensions in glycerin, gauzes, etc., in strength varying up to 10 per cent. of pure isoform. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst, a. M. (Victor Koehl & Co., New York).

ISOPRAL.

Isopral, $CCl_3.CHOH.CH_3=C_6H_4OCl_2$, is 1,1,1-trichlor-2-propanol.

Actions and Uses.—Isopral resembles chloral in its action, but is effective in smaller dose. It is prompt in effect and apparently devoid of cumulative action. It has some degree of local anesthetic power. It may be used as a substitute for chloral hydrate and is serviceable as an alternative in cases in which it is necessary to give hypnotics for a long time. Dosage.—0.3, 0.6 to 1 Gm. (5, 10 to 15 grains) in capsules or wafers which should be dispensed in a well-stoppered glass vial. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

POISONING BY ANTIKAMNIA.

By HUBERT N. ROWELL, M. D., Berkeley.

On the evening of the 18th instant I was called hurriedly to see Mrs. M., an experienced nurse, who had a "fainting spell." She had been suffering from an ulcerated tooth, and upon the advice of her dentist, had taken antikamnia. She had taken ten grains.

I found her practically without pulse, cyanosed, with shallow breathing, and a "leaky skin." Collapse was clearly evident, and after half an hour's work with various restoratives she regained consciousness, but for an hour or more described a sensation of numbness in the extremities.

That hers was not an illustration of idiosyncrasy is proven by the fact that she had taken coal-tar derivatives in the past, but under the direction of her physician. The package from which the tablets were taken, was marked "sample package," and she alleges that it was left at her door.

A TOY REFLECTION.

To the Editor of the State Journal: During the past few months I have watched the medical journals in the hope of seeing a warning to the general public concerning a new toy that seems to meet with a national general acceptance by the thousands of our little ones. I refer to the popular "Teddy bears." Is it possible to conceive of a more ready germ carrier? Surely it would seem a perfectly ideal one to disseminate many of the now prevailing diseases of childhood. I need only refer to scarlet fever, measles, whooping cough, influenza and decidedly not least, diphtheria. I have only mentioned a few, but if we go further and think of ring-worm and the many animal parasites that infect from our household domestic pets, that naturally come in contact with the toys referred to, my article, intend to be short and a starter, would be a lengthy one. In a large and varied general practice I have repeatedly noticed in homes having these toys that every child in the household would contract the prevailing disease. The little tots take so kindly to such playthings, being of a soft and woolly nature, that they kiss and fondle them, to be passed along. I will not dwell longer on the subject for a few words will be sufficient and perhaps cause others to instruct those in their care.

ALFRED H. TICKELL.

COUNTY SOCIETIES.**MARIN COUNTY.**

The Marin County Medical Society met at the residence of Dr. E. Chipman in Ross Valley, October 12th. The following members were present: Drs. Jones, Howitt, Hund, Mills, Galehouse, Mays, Crumpton, Chipman, Powers and Kuser. Dr. Jones presided. The Society concluded to follow out the post-graduate course as mapped out by the Council of the A. M. A. The meeting nights were changed so that the Society will meet at Dr. Jones' office every Thursday evening at 8 o'clock. After the meeting a splendid banquet was served by the host and hostess, which was greatly enjoyed by all present.

H. KUSER, Secretary.

SANTA CLARA COUNTY.

The regular monthly meeting was held November 20th, with the following members present: Drs. Snow, Harris, Newell, Fraser, Lyon, Hopkins, Beattie, Jordan, Wagner, Whiffen and Park. Dr. C. E. Thompson was the guest for the evening. Four new members were added at the meeting, they being

Drs. Kocher, Blair and McGinty of San Jose, and Dr. Tourtillott of Morgan Hill.

Dr. Newell read a paper entitled "Perforation in Typhoid Fever Successfully Treated by Operation."

Dr. Beattie opened the discussion, and was followed by Drs. Whiffen, Hopkins, Park and Snow, with Dr. Newell closing the discussion.

K. C. PARK, Secretary.

SAN JOAQUIN COUNTY.

A special meeting of the San Joaquin County Medical Society was held in the office of Dr. Barton J. Powell, October 12th, at which time the doctor was presented with a traveling bag on the eve of his departure for Europe in recognition of his services as secretary of the Society. The presentation was made by President R. R. Hammond. Dr. Powell was taken completely by surprise but responded feelingly in a few well chosen words. After an hour spent in pleasant conversation the Society adjourned.

* * *

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. S. W. R. Langdon November 8, 1907. President R. R. Hammond being absent Dr. Langdon, First Vice-President, presided. Members present: Drs. J. D. Dameron, J. P. Hull, C. R. Harry, S. W. R. Langdon, J. G. Thompson, W. W. Fitzgerald, I. B. Ladd, Minerva Goodman, H. E. Sanderson, Hudson Smythe, Margaret Smyth, A. W. Hoisholt, J. D. Young, S. F. Priestly, H. N. Cross, D. F. Ray, E. L. Blackmun, J. V. Craviotto, L. R. Johnson, B. F. Walker, F. P. Clark and R. B. Knight; Dr. A. Henderson of Sacramento as guest.

The minutes of the last regular meeting of September 27 were read and approved. Also the minutes of the special meeting on October 12 were approved. A communication from Dr. Jones, Secretary of the State Society, relative to the appointment of a member of the County Society to represent the County on the National Auxiliary Legislative Committee was read and ordered filed, and upon motion duly moved and seconded the president was given power to appoint such member. The names of Drs. B. F. Walker and L. R. Johnson were approved by the Committee on Admission and duly enrolled as members of the Society. A communication from Coroner B. C. Wallace relative to the crime of abortion was received and upon motion it was ordered that a copy be sent every practitioner in the county.

The paper of the evening was "The Operative Treatment of Fractures," by Dr. A. Henderson of Sacramento, who supplemented his paper by numerous radiographs and X-Ray plates of the various cases under discussion. Dr. C. R. Harry opened the discussion, followed by most of those present. After refreshments the Society adjourned.

R. B. KNIGHT, Secretary Pro Tem.

RIVERSIDE COUNTY.

The first meeting of the Riverside County Medical Society, following the summer vacation, was held one month ago, at the home of our Vice-President, Dr. C. Van Zwalenburg. We had with us Drs. Stanley Black and F. C. E. Mattison of Pasadena. Dr. Black addressed us on the subject of "Branch Libraries"; referring to the proposed branches of the Barlow Medical Library of Los Angeles, which have been established at Pasadena and San Diego, and we hope may be located in Riverside. Our Society voted that we raise the funds necessary to establish such a branch and a committee appointed to find "housing"

room, arranged to have it made a restricted part of the Carnegie Public Library, the medical profession enjoying special privileges in using it.

Dr. Mattison spoke to the society on the subject of "Pure Food" and "Illegal Practitioners." The matter of a clean food supply has been kept well in hand by our City Health Officer, Dr. W. W. Roblee, and the officers of the Society have charge of the prosecution of illegal practitioners. We are practically free from these offenders, the result of continued vigilance and a sympathetic law-enforcing district attorney.

At our meeting held Monday evening at the home of Dr. T. R. Griffith, Dr. H. A. Atwood of Riverside read a paper on "Atonic Dilatation of the Stomach." The Society voted that in compliance with the suggestion of the Secretary (or some other officer of the A. M. A.) we should make an effort to increase our membership and invite all licensed physicians not practicing sectarian medicine to come in with us.

The Southern California Medical Society meets at the Glenwood Hotel in December. It may not be out of place to have it noted that through the society as a whole or through the efforts of one or more of its individual members, a public meeting was held this year, when the physicians discussed the tuberculosis question, its "Cause and Prevention." A paper was later read before a convention of W. C. T. U. Workers on the "Patent Medicine Fraud" and more than two hundred Viavi reprints were circulated.

We have abolished "lodge contract practice," "three-dollar old line insurance examinations" and "one dollar lodge insurance examinations." The vaccination law is complied with or enforced. We are trying to establish the branch medical library and we hope to increase our membership and thereby increase our influence. Next month the compulsory vaccination law will be discussed or rather debated publicly.

GEORGE E. TUCKER, Secretary.

SANTA BARBARA COUNTY.

As we are nearing the close of the year, a resume of the work of the Santa Barbara County Medical Society may prove interesting to the readers of the State Journal of Medicine. Our Society has only monthly meetings, and as the sessions only average about two hours each—or twenty-four hours in the course of the year—we can not be expected to get over a great amount of scientific space. Therefore, when we cast up accounts, I consider we have done remarkably well, though we hope to advance on this during 1908. The January session was for business and the election of officers. The subject of medical ethics, fees and collections, and relations between physicians and druggists was discussed.

The February meeting was semi-public. The subject of school hygiene and physical defects in pupils being set for discussion. The Superintendent of City Schools, High School principal and grade principals and teachers were present in good numbers; along with members of Board of School Trustees. The meeting was interesting and enthusiastic and was productive of much permanent good.

In March we took up the subject of hygienic bathing. At this also some of the school principals were present.

The April session was occupied with the important subject of gastric ulcer.

In May we took up typhoid fever. Also this month the Society made an important departure in the calling of a special session (which was of the nature of an informal reception) in honor of Mr. Samuel Hopkins Adams, of "Great American Fraud"

fame. At this special session, in addition to members, we entertained the Superior Judge and other prominent citizens. The judge and other gentlemen joined in the discussion of Mr. Adams' work.

In June we had an interesting paper on "Chronic Suppuration of the Middle Ear."

The July meeting was occupied with a symposium on "Cholelithiasis."

In August the Society took up the question of "Some Sanitary Problems."

In September we had a most exhaustive symposium on "Anesthesia," going fully into its history, kinds and methods.

In October the Society listened to a timely paper on "Polyadenitis Malignant" (plague). Also an essay on "Arterio-sclerosis" and its relationship to toxemia and intestinal intoxication.

In November we were visited (on invitation) by a member of the San Francisco County Medical Society (Dr. Cullen F. Welty), who favored us with a good and practical paper on the "Pathology of Acute Purulent Otitis, With Indications for Operative Interference in Acute Mastoiditis."

And finally, we are expecting in December a symposium on "Infantile Paralysis." Also we have invited to address us at this session, on the important subject of milk contamination, one of the veterinary inspectors of the United States Government (Dr. Rosenberger). Thus you see we are really alive down in Santa Barbara, and are, I firmly believe, gaining some in strength and importance. We are trying to emphasize practical clinical reports at our monthly sessions, and I am pleased to say that gentlemen are commencing to report and exhibit patients and pathological specimens.

The attendance throughout the year has only been an average one, but the members are coming out a little better all the time. As the result of the year's work then, I can say that we have advanced some scientifically, and strengthened friendly and cordial relationships in the profession. Some additional members are coming in the first of the new year.

WILLIAM T. BARRY, Secretary.

PUBLICATIONS.

The Immediate Care of the Injured. By Albert S. Morrow, A. B., M. D., Attending Surgeon to the Worlhouse Hospital and to the New York City Hospital for the Aged and Infirm; Assistant Attending Surgeon to the Manhattan Maternity Hospital. Fully Illustrated. W. B. Saunders Company, Philadelphia and London.

Layman and doctor are liable at any time to be confronted with an emergency which, through want of equipment on the one hand, or knowledge on the other, may prove a serious tax on their resources and ingenuity. A more general knowledge of "first aids" would not only be of benefit in the alleviation of suffering, but what is more important, prevent infliction of additional injury by the sympathetic, but ignorant bystander in his well-meant attempts to "do something." Hence, any book that would be available for general use would be a valuable one. Doctor Morrow in his book of 323 pages has met this requirement very successfully. For the special benefit of those without medical knowledge he devotes the first part to a brief outline of anatomy and physiology, presented in simple language as free as possible from technicalities. Following this are several chapters treating of bandages, slings, dressings and practical remedies (heat, cold, poultices, counter-irritants), antisepsis and disinfectants. The third and last portion deals with accidents and emergencies; hemorrhage, inflammation, contusions, wounds, burns, scalds, exposure to cold, fractures,

dislocations, sprains, asphyxia, removal of foreign bodies and poisoning. A chapter on the transportation of the injured terminates the book. Here the author follows the drill regulations of the United States Army Corps. Throughout the book the treatment is, with few exceptions, limited to temporary assistance pending the arrival of medical aid. There are numerous illustrations, many of them original, which go far towards clearing up points in the text which might otherwise be misunderstood. This book certainly justifies the author's claims and we unhesitatingly recommend it alike to physicians, nurses and laymen.

K. I. L.

Behind the Scenes With the Mediums. By David P. Abbott. The Open Court Publishing Company, Chicago. Price \$1.50 net.

Many years ago two little girls, the Fox Sisters, startled the world with their mysterious rappings. This was the beginning of modern Spiritualism. Soon after this, mediums began appearing all over the country, who could cause raps to sound on furniture, tables to tip, etc. Next, professional mediums began traveling over the country, giving exhibitions in rope-tying and cabinet manifestations. Later came the slate-writing, the billet test mediums, etc., until at the present day there are many hundreds of persons following this profession for a livelihood. There are several hundreds of them in Chicago alone.

In the present work, Mr. Abbott has given to the public a collection of the most valuable secrets of mediumistic work in existence.

Most of the secrets revealed in this book were obtained by Mr. Abbott directly from mediums, while he purchased not a few of them from dealers at exorbitant prices. He has given his very best secrets in this work; and being a practical performer himself, although not a medium, he has included only up-to-date secrets that are thoroughly professional and practical and such as are actually being used by professional performers and mediums of the present day, in mystifying an innocent public.

For the magician and performer this book is invaluable, while for the honest spiritualist it is a boon long needed. Honest believers in Spiritualism do not desire to be duped by impostors and charlatans. In this book many tricks of such persons are so thoroughly exposed, that by studying its pages any one may become a competent investigator of any phenomenon of a super-normal appearance.

That the reader may understand how the secrets herein revealed have been treasured and guarded from the public heretofore, and of the value placed on them by performers, we will state that the value of the secrets contained in this volume estimated at the prices charged for them by dealers, would run into hundreds of dollars. Not a few of the secrets contained have sold at twenty-five dollars each, while a number of them have never even been offered for sale, the little chapter on "Vest Turning" contains a secret that is being sold today for two dollars and fifty cents, while the secret contained in the chapter, "Performances of the Annie Eva Fay Type" was sold to a medium of Mr. Abbott's acquaintance for two hundred and fifty dollars.

Many of the slate tricks are worth at least ten dollars each, and the book is very complete in its exposure of slate-writing and billet work. The exposure of the billet tests of certain Chicago mediums of the present day is of great value. It is impossible to enumerate here all the valuable secrets which this work contains. Owing to the bearing of the subject on the question of personal immortality, the work has a certain philosophical import; and in addition, to this, descriptions are presented in a very interesting manner.

Mr. Abbott is a member of the American Society for Psychical Research and has written on the subject for the journal of that society.

Tumors Innocent and Malignant; Their Clinical Characters and Appropriate Treatment. By J. Bland-Sutton, F. R. C. S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital, etc. Fourth Edition, With Three Hundred and Fifty-five Engravings. W. T. Keener & Co., Chicago. MCMVII.

Those who care only for the purely academic side of the study of tumors will find in this volume little of interest. Written more from the standpoint of the clinician than from that of the professional pathologist, it naturally has found greater favor amongst practitioners of medicine than scientific investigators. The story of this singularly varied and fascinating world of tumors was a bold thing to undertake; yet Dr. Sutton, peculiarly well fitted for the task, contributed four years ago an admirably well conceived one, which has since been revised and now appears in its fourth edition. In no sense, however, does the present volume constitute a complete review of the pathology of tumors, although it is evident that some effort has been made to embody a few of the ideas that modern investigations have brought with them. Since many of the recent achievements in the study of human pathology have had their origin in observations on lower animals the liberal use by the author of comparative pathology, for the purposes of illustrations, gives a breadth of view not ordinarily found in similar books.

The introductory chapter consists of a rather general discussion of tumors, brief allusion being made to such matters as the liability of organs to the development of tumors, environment in relation to their development, age distribution, multiplicity, and the transformation of innocent into malignant growths; but no mention is here made of the degenerative and destructive processes often encountered in them, of the characteristics which stamp malignancy, nor to the presence of new elastic tissue or nerves. The classification of neoplasms followed by the author is, in greater part, that usually found in text-books of pathology. The separation of the normal tissues into groups is useful, rather because it facilitates their study than because it expresses absolute and fundamental distinctions; the same may be said of all classifications of tumors. The attempt has often been made to classify them with reference to the developmental history of the tissues represented, and it has been generally believed that cells once differentiated in the primary embryonic layers cannot again be merged in type. While this principle holds good in general, particularly for the highly differentiated forms, certain recent studies have seemed to indicate that even this distinction may not be inflexible. Whatever the truth of this may be, it is certain that the cells derived from one embryonic layer may under more or less perfectly understood conditions come so closely to resemble morphologically those of another layer, that a structural differentiation, with our present methods of study, is not always possible. Nevertheless this histogenetic principle of classification is useful and suggestive.

These points have already been exhaustively considered by Marchand in his paper on "The Relationship Between Pathological Anatomy and Embryology," and later by Minot in his admirable address on "The Embryological Basis of Pathology."

Almost the whole of the first third of the book, consisting of about 215 pages, deals with new-growth of the connective-tissue group. The essential points are given with more or less complete-

ness; but sometimes the histological and clinical descriptions are extraordinarily meagre. Thus, the section on myeloma can be regarded as containing neither a precise pathological description nor a good clinical picture of the condition. The myelocytosis so often associated with these tumors is not even mentioned. The discussion of sarcomata likewise lacks precision and comprehensiveness. Sarcoma of the intestine is dismissed in a few lines, and in the list of references to this article Balzer's masterly paper and Libman's critical article are both omitted. About sixty lines are given to the discussion of sarcoma of the thyroid gland, although within the last few years Lartigau, and Muller and Speese, have contributed articles of some length. Still more disappointing is the chapter on sarcoma of the bones. One cannot avoid comparison with the classic paper of Gross published in 1879, or the more recent articles of Reinhardt, Kocher, Mayer and Coley. Much better, on the other hand, is the discussion of renal sarcoma. Attention is drawn to the bone metastases of hypernephromas. Of considerable interest in this connection is the paper of Scudder published since the publication of the present edition of this book. The following practical suggestions are made by Scudder: A bone metastasis may be the first sign of a hypernephroma; a bone tumor in a middle-aged or elderly person should suggest a metastatic hypernephroma, for a primary bone tumor in elderly people is uncommon; the bone metastasis from a hypernephroma may exist without symptoms for a considerable period; the kidney region should be palpated with great care in every case of bone tumor.

The brief description accorded melanosarcoma of the skin takes no cognizance of the noteworthy investigations of Unna, v. Recklinghausen, Ribbert, and of Gilchrist in this country. In the last few years the histogenesis of these tumors has been the subject of lively controversy. It was the earlier opinion of pathologists that a melanosarcoma may originate, as does every other sarcoma, from any place in the connective tissue, and is distinguished only by the pigment which is formed by the tumor cells; in other words, a melanosarcoma was classified as a species of sarcoma. The first investigator to contest this opinion was v. Recklinghausen, who asserted that pigmented nevi and the melanosarcomata arising from them, originate only from a particular variety of connective tissue cells, namely, from the endothelia of lymph vessels and clefts. Unna, on the other hand, in 1893 advanced the view that they arise not from connective tissue but from epithelia, which at some time have been cut off from their original site and have become completely surrounded by connective tissue. Hence Unna insists that these tumors should be classified as melanocarcinomata and not as melanosarcomata. This opinion was later adopted by Krohmayer and Delbanco. Ribbert, however, believes that these tumors are of connective tissue origin; but according to him, not every connective tissue cell can give rise to melanosarcoma. While other authors have previously held that the pigment and its distribution in these tumors were entirely independent of its growth, Ribbert asserts that a melanotic tumor can only originate from a special connective tissue cell which produces pigment—the chromatophores. Most writers who have since investigated the subject, including Gilchrist, Johnston and Schalek, favor the view expressed by Unna.

The endotheliomata are also lightly passed; considering the wealth of contributions which have appeared the twenty-five lines devoted to these tumors scarcely do justice to our knowledge regarding them. Since the discovery in 1862 by v. Recklinghausen of the lining cells of the lymph vessels, interesting controversies have been carried on con-

cerning the nature of endotheliomata. For a time considerable difference of opinion prevailed regarding the derivation of endothelium, although at the present time it is generally conceded to be of mesothelial origin; later, discussions became largely centered on the relationship of tumors originating from the lining cells of cavities like the peritoneal and pleural and those springing from the endothelium of lymph and blood vessels. However, Sala's researches seem to have established the identity of the endothelium of blood and lymph vessels and that of the serous cavities. Minot, on the other hand, still persists in distinguishing between the two by calling the former endothelium and the latter mesothelium. Interesting are also the investigations of Heidenhain, Hamburger and Ranvier, who have shown that endothelial cells possess a secretory function and take part in the elaboration of lymph, secrete hyaline and amyloid substance and mucin. Briefly, most observers now consider the endothelial cell of mesodermic origin, a modified mesenchymal cell, such as forms the connective tissue around it, retaining its ability under certain conditions to behave like a connective tissue cell, yet morphologically like an epithelial cell, acquiring at least some of the functions of the latter. The literature of endotheliomata is more or less confusing on account of variable nomenclature employed in the past. Depending on the viewpoint of the writer these tumors have been variously described as endothelial sarcoma (Fischer, Cramer and Rindfleisch), sarcoma plexiforme (Ewetzky), alveolar sarcoma (Billroth), angiosarcoma (Waldeyer, Kolaczek and Hippel), endothelial cancer (Schulz), connective tissue cancer (Neumann), sarco-carcinoma (Bohme), etc. For a fuller discussion of these interesting growths we recommend the learned contribution of Volkmann and the article in Lubarsch's "Ergebnisse der allgemeinen Pathologie, Jahrg. I., Abath. 2, p. 366; and Jahrg. II., p. 592, neither of which are mentioned in Sutton's list of references.

The practical importance of fibroid growths of the uterus is well reflected in the lengthy discussion accorded the matter. Most phases of the subject are well handled except the part devoted to malignant changes in fibroids which hardly sufficiently emphasizes the possibilities in this regard. Noble of Philadelphia has lately published the results of his own and others' investigations on these degenerations in 2274 cases which showed sarcoma in almost 1.5 per cent. From the study of 4880 consecutive cases he also corroborates the conclusion of Winter that fibroids of the uterus predispose to the development of cancer of the body of this organ.

The general aspects of the cancer question are briefly treated after the conventional manner. While no reference is made in the article to the incidence of cancer in different parts of the world it may not be amiss to allude to the painstaking paper of Guthrie McConnell on the geographical distribution of cancer in the United States based on the Twelfth Census. This shows that the incidence was greatest in the Pacific Coast region, 51.9 per 10,000 deaths; in the heavily timbered region of the Northwest, 46.8; in the Northwestern hills and plateaux, 44.5; in the prairie region, 43. It was least in the southern interior plateau, 18.1; in the Southwest Central region, 15.8, and in the North Mississippi River belt, 11.3. This agrees with the conclusions of Wolff, who showed that the distribution of cancer did not depend upon geographical conformation, rainfall, or elevation, but that it was apparently more frequent in great river valleys and in wooded districts.

Notwithstanding great activity shown within the last few years in the study of cancer its origin still remains obscure. Investigation, nevertheless, has

lately thrown a flood of light on many hitherto little suspected phases of the question. Knowledge of the scope and results of this experimental work is essential to a clearer viewpoint of the prevailing, but irreconcilable opinions held by different observers. The omission, therefore, in Sutton's resume "Concerning the Cause of Cancer" of the observations upon which these views are based is regrettable. The prevailing theories are merely outlined; and the historically interesting hypothesis of Thiersch is not even mentioned, nor do we find any reference to that championed by Ribbert in 1894. The account is not worthy of the labors and achievements of investigators who, although failing in the object of their quest, have contributed much which has had great influence in directing research along other and more promising lines.

Writers on the subject may be divided in two classes, one believing that the epithelial proliferation in cancer is due to some biological peculiarity of the cells themselves, the other that it is due to a living parasite. The well-known embryonic theory advanced by Cohnheim in 1882 is based on the assumption that in each of the primary embryonic layers more cells are produced than are necessary for the development of the adult tissues, and that some of these surplus embryonic cells do not develop into the normal tissues of the body, but persist as "rests" which have the "potentiality of growth" characteristic of fetal cells, although they present no gross or histological peculiarities which will permit of recognition. These supposititious "rests" once produced have an ultimate fate dependent upon various accessory conditions which may or may not act as a stimulus to their further development. It would be conceivable that an individual in whom these "rests" developed might grow to adult life and die without any accessory cause ever stimulating them to unlimited growth. Or the proliferation of these "rests" might begin at a very early stage of fetal life, and in this way the occurrence of congenital tumors could be explained. Or the accessory causes might become active during any period of life, early childhood, or young adult life, or the "rests" might remain quiescent during many years and be excited to growth only during later life. Thus could be explained the occurrence of exostoses at the time of greatest bone activity or of ovarian cysts at puberty or of breast tumor during pregnancy or the occurrence of cancer in late adult life. Of this theory of the origin of tumors Sutton says, "It is in itself a brilliant generalization, and has served a valuable purpose in leading to a great extension of knowledge in regard to vestiges and rests."

Ribbert's theory, which is entirely disregarded by Sutton, is based on the histological study of very early cancers. From such investigations he believes that the epithelial proliferation is due primarily to a separation of epithelial cells from their attachment to the normal epithelial layers by the action of connective tissue. These freed epithelial cells still retaining their power of growth, get into the clefts between the connective tissue cells, proliferate, and thus form islands of epithelial cells, which, freed from the normal restraining influence of other tissues, have an unlimited power of growth. There is some evidence, clinical and experimental, that normal epithelium, set free by accident or design from its original attachment, may retain its power of growth and produce nodules or cysts of epithelium, but there is no proof that malignant tumors may be so produced. Following injury, cysts lined with epithelium, however, have been reported by Wegner, Bohm, Le Fort, Garre, Blumberg, Paulet, Reverdin and Gironde. Cysts have also been produced experimentally by Schweininger and Kaufmann. Ribbert's hypothesis, fascinating as it is,

still leaves us ignorant of the exact origin of cancer.

Observations made within the last two or three years have suggested the theory that cancers may be considered to be parasitic individuals engrafted on a normal individual, and that they are produced by the conjugation of cells in a way analogous to conjugation or sexual cells which produce a normal individual. Farmer, Moore and Walker investigated cancers and concluded that the reduction in the number of chromosomes in the mitosing cells occurred in the same manner as in the ripening of the sexual cells of animals and plants, and that the number of these chromosomes were half as numerous as in the somatic cells. Bashford and Murray have since confirmed this by observations showing a series of changes in the nuclei of malignant tumors throughout the whole extent of their known zoological distribution parallel to those characteristics of the maturation of the sexual elements of the metazoa. Sutton apparently is much impressed with these facts for he considers them with some fullness; and there is little doubt that this constitutes an important step in the solution of the problem of the origin of tumors.

As early as 1790 cancer was considered an infectious disease, but it is only since Thoma, in 1889, called attention to certain unicellular bodies in the epithelial cells of cancer that the parasitic theory came into vogue. Of recent years these and other bodies have been closely studied by Russell, Ruffer and Walker, Sjobring, Plimmer, Sanfelice and others, and for various reasons have been regarded by them as parasites, either blastomycetes or protozoa. The careful studies of Pianese, Borrel and Tadoa Honda, however, have shown that these bodies were the result of cell degeneration, centrosomes, etc. The experimental and "cultural" evidences of Schueller, Gaylord and others are not more convincing. From a review of the evidence the conclusion seems inevitable that little has been brought forward which justifies the assumption that cancer is parasitic in origin. A critical review of this theory was published a short time ago and may be found in the Third Report of the Caroline Brewer Croft Cancer Commission of the Harvard Medical School.

Cancer of the uterus is well handled. A more detailed description of the manner and extent of metastases would undoubtedly have added to the value of the discussion. The painstaking investigations of Kundrat of Wertheim's Clinic and the careful work of Baisch in Doederlein's Clinic are entirely overlooked. Kundrat's work is particularly noteworthy; it is based on serial sections of the parametrial tissue and lymph nodes from eighty cases of carcinoma of the cervix. Three years were consumed in this research and over 21,000 microscopic sections were studied. More recently Sampson has restudied the matter, corroborating the conclusions of the last named investigators.

In looking over the account of primary cancer of the common bile duct we find that the papers of Pic, Luzzato, Schuller and Letulle have been entirely overlooked; the description is so meagre that it is little else than useless. Much better is the discussion of tumors of the teeth. Some valuable observations have also been collated regarding new growths of the ovary and the testicles, but the piece de resistance consists of fifty pages on teratomata and dermoids. The book terminates with a good chapter on hydatid cysts of various organs.

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